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Temple Bulletins 2018-2019

The Bulletin provides enrolled students with the information they need regarding their chosen academic path and helps prospective students make important enrollment decisions.

The information in this bulletin is subject to change by Temple University at any time. Neither this bulletin nor any parts of it may be relied upon as a contract between Temple University and any student, applicant, or other user of this site. All prospective and current students should consult with appropriate University Offices to verify current information and the status of policies, programs, descriptions of curricula, or other information in this bulletin.

Undergraduate Bulletin

The current Undergraduate Bulletin is for students who began school in Fall 2018.

For students who began prior to Fall 2018, see the Archives.

• 2018-2019 Undergraduate Bulletin (http://bulletin.temple.edu/undergraduate)
• Archived Undergraduate Bulletins (http://bulletin.temple.edu/archives)

Graduate Bulletin

The current Graduate Bulletin is for students who began school in Fall 2018.

For students who began prior to Fall 2018, see the Archives.

• 2018-2019 Graduate Bulletin (http://bulletin.temple.edu/graduate)
• Archived Graduate Bulletins (http://bulletin.temple.edu/archives)

Other Resources

Admissions (http://temple.edu/admissions)
Courses (http://bulletin.temple.edu/courses)
DARS (https://sites.temple.edu/degreeaudit)
Fly In 4 (https://fly.temple.edu)
Class Schedule (http://www.temple.edu/apply/common/cdcheck.asp)
About This Bulletin

The Graduate Bulletin is a presentation of specific information about the graduate academic programs offered under the umbrella of Temple University’s Graduate School. This version of the Graduate Bulletin has a release date of July 1, 2018 for the 2018-2019 academic year.

Although every effort is made to provide complete and accurate information in the Graduate Bulletin, the program and certificate descriptions are announcements only and in no way serve as a contract. As new programs go into effect and programs are modified, the Graduate Bulletin is updated.

If a program of interest cannot be found among the programs delineated and described in the Graduate Bulletin, it may be regarded as a professional degree program at Temple University. Information on professional programs can be found by visiting the appropriate school or college website of Kornberg School of Dentistry (http://dentistry.temple.edu), Beasley School of Law (http://www.law.temple.edu), the Lewis Katz School of Medicine (https://medicine.temple.edu), the School of Pharmacy (http://pharmacy.temple.edu), and the School of Podiatric Medicine (http://podiatry.temple.edu).
# Academic Calendar

This academic calendar is based on the Academic Calendar published by the Office of the University Registrar at www.temple.edu/registrar/documents/calendars/18-19.asp, but includes dates of vital importance to graduate students (indicated with a leading asterisk) found only herein:

## July 2018

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last day to add/drop for Second Summer 2018 6-week full term</td>
<td>Monday, 7/2</td>
</tr>
<tr>
<td>Independence Day (No Classes)</td>
<td>Wednesday, 7/4</td>
</tr>
<tr>
<td>Last day of classes for First Summer 2018 4-week session 4B</td>
<td>Wednesday, 7/11</td>
</tr>
<tr>
<td>First day of classes for Second Summer 2018 4-week session</td>
<td>Thursday, 7/12</td>
</tr>
<tr>
<td>Last day to add/drop for Second Summer 2018 4-week session</td>
<td>Monday, 7/16</td>
</tr>
<tr>
<td><em>Last day for August 2018 graduates to submit final dissertation/thesis to the Graduate School</em></td>
<td>Monday, 7/16</td>
</tr>
<tr>
<td>Last day to withdraw from Second Summer 2018 6-week full-term course(s)</td>
<td>Wednesday, 7/18</td>
</tr>
<tr>
<td>Last day to withdraw from Second Summer 2018 4-week session course(s)</td>
<td>Thursday, 7/26</td>
</tr>
</tbody>
</table>

## August 2018

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last day of classes for Summer 2018 12-week term</td>
<td>Wednesday, 8/8</td>
</tr>
<tr>
<td>Last day of classes for Second Summer 2018 6-week full term</td>
<td>Wednesday, 8/8</td>
</tr>
<tr>
<td>Last day of classes for Second Summer 2018 4-week session</td>
<td>Wednesday, 8/8</td>
</tr>
<tr>
<td>Diploma date for the Summer 2018 term</td>
<td>Thursday, 8/9</td>
</tr>
<tr>
<td><em>International Graduate Student Orientation</em></td>
<td>Thursday, 8/23</td>
</tr>
<tr>
<td>First day of classes for Fall 2018 16-week full term</td>
<td>Monday, 8/27</td>
</tr>
<tr>
<td>First day of classes for Fall 2018 7-week session 7A</td>
<td>Monday, 8/27</td>
</tr>
</tbody>
</table>

## September 2018

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor Day (No Classes)</td>
<td>Monday, 9/3</td>
</tr>
<tr>
<td>Last day to add/drop for Fall 2018 7-week session 7A</td>
<td>Tuesday, 9/4</td>
</tr>
<tr>
<td>Last day to add/drop for Fall 2018 16-week full term</td>
<td>Monday, 9/10</td>
</tr>
<tr>
<td>Last day to withdraw from Fall 2018 7-week session 7A course(s)</td>
<td>Tuesday, 9/25</td>
</tr>
</tbody>
</table>

## October 2018

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last day to withdraw from Fall 2018 7-week session 7B course(s)</td>
<td>Monday, 10/23</td>
</tr>
<tr>
<td>Last day of classes for Fall 2018 7-week session 7B</td>
<td>Thursday, 10/25</td>
</tr>
</tbody>
</table>

## November 2018

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last day of classes for Summer 2018 12-week term</td>
<td>Monday, 11/10</td>
</tr>
<tr>
<td>Last day of classes for Second Summer 2018 6-week full term</td>
<td>Monday, 11/10</td>
</tr>
<tr>
<td>Last day of classes for Second Summer 2018 4-week session</td>
<td>Monday, 11/10</td>
</tr>
<tr>
<td>Diploma date for the Fall 2018 term</td>
<td>Thursday, 12/20</td>
</tr>
</tbody>
</table>

## December 2018

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last day to withdraw from Fall 2018 7-week session 7B course(s)</td>
<td>Monday, 12/17</td>
</tr>
<tr>
<td>Last day of classes for Fall 2018 7-week session 7B</td>
<td>Wednesday, 12/19</td>
</tr>
<tr>
<td><em>Nominations for Round 1 of Presidential, University, and Future Faculty Fellowships due in the Graduate School</em></td>
<td>Wednesday, 1/30, 4:00 PM</td>
</tr>
</tbody>
</table>

## January 2019

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last day to withdraw from Spring 2019 7-week session 7A course(s)</td>
<td>Monday, 2/18</td>
</tr>
<tr>
<td>Last day to withdraw from Spring 2019 16-week full term</td>
<td>Monday, 2/18</td>
</tr>
</tbody>
</table>

## February 2019

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last day to apply for May 2019 graduation</td>
<td>Friday, 2/1</td>
</tr>
<tr>
<td>Last day to withdraw from Spring 2019 7-week session 7A course(s)</td>
<td>Monday, 2/18</td>
</tr>
</tbody>
</table>
*Nominations for Round 2 of Presidential, University, and Future Faculty Fellowships due in the Graduate School

**March 2019**

Spring Break (No Classes) Monday, 3/4 - Sunday, 3/10

Last day of classes for Spring 2019 7-week session 7A Monday, 3/11

First day of classes for Spring 2019 7-week session 7B Tuesday, 3/12

Last day to add/drop for Spring 2019 7-week session 7B Monday, 3/18

Last day to withdraw from Spring 2019 16-week full-term course(s) Monday, 3/18

*Applications for First Summers Research Initiative Awards for Summer 2019 due in the Graduate School Friday, 3/22, 4:00 PM

**April 2019**

Last day to withdraw from Spring 2019 7-week session 7B course(s) Monday, 4/8

*Last day for May 2019 graduates to submit final dissertation/thesis to the Graduate School Monday, 4/22

Last day of classes for Spring 2019 16-week full term Monday, 4/29

Last day of classes for Spring 2019 7-week session 7B Monday, 4/29

**May 2019**

University Commencement Thursday, 5/9

Diploma date for the Spring 2019 term Thursday, 5/9

First day of classes for Summer 2019 12-week term Monday, 5/13

First day of classes for First Summer 2019 6-week full term Monday, 5/13

First day of classes for First Summer 2019 4-week session 4A Monday, 5/13

Last day to add/drop for First Summer 2019 4-week session 4A Thursday, 5/16

Last day to add/drop for First Summer 2019 6-week full term Friday, 5/17

Last day to apply for August 2019 graduation Saturday, 5/18

Last day to add/drop for Summer 2019 12-week term Wednesday, 5/22

Memorial Day (No Classes) Monday, 5/27

*Nominations for Doctoral Dissertation and Master of Fine Arts Project Completion Grants for Fall 2019 due in the Graduate School Friday, 3/22, 4:00 PM

*Applications for First Summers Research Initiative Awards for Summer 2019 due in the Graduate School Friday, 3/22, 4:00 PM

**June 2019**

Last day to withdraw from First Summer 2019 6-week full-term course(s) Monday, 6/3

Last day of classes for First Summer 2019 4-week session 4A Monday, 6/10

First day of classes for First Summer 2019 4-week session 4B Tuesday, 6/11

Last day to add/drop for First Summer 2019 4-week session 4B Monday, 6/17

Last day of classes for First Summer 2019 6-week full term Monday, 6/24

First day of classes for First Summer 2019 6-week full term Tuesday, 6/25

Last day to withdraw from Summer 2019 12-week term course(s) Thursday, 6/27

Last day to withdraw from First Summer 2019 4-week session 4B course(s) Thursday, 6/27

**July 2019**

Last day to add/drop for Second Summer 2019 6-week full term Monday, 7/1

Independence Day (No Classes) Thursday, 7/4

Last day of classes for First Summer 2019 4-week session 4B Monday, 7/15

First day of classes for Second Summer 2019 4-week session Wednesday, 7/17

Last day to add/drop for Second Summer 2019 4-week session Thursday, 7/18

Last day to withdraw from Second Summer 2019 6-week full term course(s) Thursday, 7/22

*Last day for August 2019 graduates to submit final dissertation/thesis to the Graduate School Monday, 7/22

Last day to withdraw from Second Summer 2019 4-week session course(s) Friday, 7/26

**August 2019**

Last day of classes for Summer 2019 12-week term Thursday, 8/8

Last day of classes for Second Summer 2019 6-week full term Thursday, 8/8

Last day of classes for Second Summer 2019 4-week session Saturday, 8/10

Diploma date for the Summer 2019 term Sunday, 8/11

Last day to withdraw from First Summer 2019 4-week session 4A course(s) Tuesday, 5/28
Graduate School Policies

While the information presented is complete and accurate to the best of our abilities, the policies detailed herewith in no way serve as a contract. Some programs impose more stringent requirements than those set by the Graduate Board and the Graduate School. Applicants and enrolled students should contact their dean's office to review school/college policies and consult their graduate advisors to review current program requirements. The policies posted herewith are continuously undergoing revision.

02.23 Admission Requirements
02.24 Graduate Credits and Standards of Scholarship
02.25 Currency and Time Limits
02.26 Master's Examination and Thesis
02.27 Doctoral Examinations/Culminating Experiences
02.28 Doctoral Dissertation
02.29 Academic Appeals to the Graduate Board
02.30 Exit Requirements

<table>
<thead>
<tr>
<th>ADMISSION REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>To be considered for admission, an applicant must meet the Temple University minimum standards for scholarship and all criteria established by the school/college and degree program. Admission to graduate programs is competitive; admissions authority rests with the Graduate School and the dean of the school/college. An application is reviewed only when the application fee is paid in U.S. dollars and all official transcripts, standardized test scores, and other application materials required for the degree program are received on or before the deadline.</td>
</tr>
</tbody>
</table>

02.23.11 Minimum Requirements for Admission

| 02.23.11.01 A baccalaureate degree or its equivalent, as recognized by Temple University, from an accredited post-secondary institution is required. |
| 02.23.11.02 Admission of students is initially subject to standards set by the Graduate School and to any higher standards set by individual programs. The minimum admissions standard for all graduate students is ordinarily an undergraduate grade point average of "B" or 3.0 on a 4.0 scale, or the functional equivalent for students who have attended universities outside of the United States. |
| 02.23.11.03 The Graduate School considers exceptions to the admissions requirement if the student meets one of these criteria: |
| • Achievement of a 3.25 cumulative grade point average in a least 9 credits of graduate work at an accredited university in the United States or equivalent academic performance in a university outside the United States. |
| • Scores above the 65th percentile on the verbal and quantitative portions of the Graduate Record Examination (or other standardized test, such as the Graduate Management Admission Test). |
| • Attainment of a 3.5 grade point average during her/his final two years of undergraduate work. |

02.23.12 Examination Requirements for Admission

| A school/college and program may require an examination such as the Graduate Record Examination (GRE®), the Graduate Management Admission Test (GMAT®), or the Miller Analogies Test (MAT™). Such examinations must have been taken within the past five years or appear on the official Temple University record of a student who has been previously enrolled. |

02.23.13 International Students

| If an applicant attended any institution that does not routinely issue complete academic records in English, s/he must submit official copies of native language records and literal translations prepared by an appropriate university or government official. Alternately, the applicant may submit the academic documents to a credential evaluation organization approved by Temple University and request that the evaluation be sent directly to the intended program at Temple University. At the same time, an unofficial copy of the academic records on which the outside evaluation is based should be sent to the intended program at Temple University. |

| 02.23.13.01 An applicant who does not hold a baccalaureate degree from an institution in which the sole language of instruction is English is required to present official scores from one of the following tests of English to meet these minimum English language requirements: |
• Test of English as a Foreign Language (TOEFL®). The minimum score required is 79 on the internet-based (iBT) or 550 on the paper-based (PBT) version for all programs, with the exception of the Master of Music (MM) in performance, for which a TOEFL score of 71 iBT or 525 PBT is acceptable.

• International English Language Testing System (IELTS™). The minimum score required on the academic version of the test is 6.5.

• PTE Academic™. The minimum score required is 53.

02.23.14 School and College Admissions Criteria

The faculties of each program establish additional admissions requirements that are approved by the graduate council or other governance body of the school/college. Additional requirements beyond the Temple University minimum requirements typically include the following:

• standardized tests

• grades and/or completion of specific coursework

• evidence of writing ability

• professional experience

• statement of goals and expressed specific interests in research or other creative activities

• portfolios

• auditions

• letters of recommendation

Because admissions requirements for graduate programs vary widely, an applicant must contact the school/college and program for current information. It is the responsibility of the applicant to submit all required credentials and other evidence of qualifications by the deadline set by the school/college and program.

02.23.15 Applications

02.23.15.01 Application deadlines vary by program as shown in the Graduate Bulletin. To be considered for any form of graduate student financial support, an applicant should apply in advance of posted deadlines. To be considered for Temple University fellowships, an applicant must apply by December 15 for admission the following Fall term. Only a student who has been admitted may be considered for Assistantships, Fellowships, Scholarships, and Student Financial Aid (loans or work-study).

02.23.15.02 Prospective students may apply to more than one degree program, but must submit a complete application to each. A student accepted into a graduate program may matriculate in only one program, except in the case of officially designated dual degree programs.

02.23.15.03 Applicants to dual degree programs must be admitted to both degree programs and complete all requirements for both degrees. Admission to one program does not guarantee admission to the other.

02.23.15.04 All students must apply for graduation and pay the associated fees by the deadline listed in the Temple University Academic Calendar and/or in the version of the Graduate School Calendar adapted for graduate students. This is the only means by which a diploma is produced and an awarded degree transcripted. The graduation application is accessed through TUportal by selecting Self Service Banner (SSB), then Student » >Student Records » > Apply to Graduate.

02.23.16 Change of Degree Program

02.23.16.01 A matriculated student in a doctoral program may, with the approval of the advisor and the dean of the school/college, request a transfer to a master’s degree program in the same department and field without reapplying. The department or program must review the student’s record and make the final decision about accepting the student into the master’s degree program.

02.23.16.02 A matriculated student in a master’s program must apply for admission to the doctoral program, even in the same department and field. (This is not applicable if the student was admitted into the Ph.D. program at the time of admission into the master’s program.) The procedures for applying are governed by the dean of the school/college and graduate council or other governance body.

02.24 GRADUATE CREDITS AND STANDARDS OF SCHOLARSHIP

02.24.10 Registration
Students must be appropriately registered for courses. Those who are not on the published grade list for a course may not receive a grade or credit for that course. Students are advised to utilize Self-Service Banner (SSB), accessible through the TUportal, to confirm billing and registration status, particularly when adding a course, dropping a class, or otherwise revising their roster. All students are responsible for ensuring that their registration is accurate. Note that any student who is registered for a course but does not attend will be billed for the course and will receive a final grade of “F” from the instructor.

02.24.11 Grades

02.24.11.01 Courses graded A, A-, B+, B, B-, C+, C, C-, D+, D, D-, and F are used to calculate the graduate grade point average (GPA). No grade below a “C-” can be used to fulfill any graduate requirement.

An “R” (Registered) grade indicates registration for the preliminary/comprehensive exam or a thesis, dissertation, or final project that is still in progress—and its use is restricted to this purpose. Therefore, the only courses that can receive an “R” grade are:

- 9993 - Master’s Comprehensive Examination
- 9994 - Doctoral Preliminary/Candidacy Examination
- 9995 - Thesis/Project or Master of Fine Arts Credits
- 9996 - Master’s Thesis Credits
- 9998 - Dissertation Proposal/Candidacy
- 9999 - Dissertation Credits

Courses numbered 9993 through 9999 cannot be graded “I” (Incomplete). These ongoing examinations and research projects require registration every term until their completion. Only the number of required s.h. for the completion of each of the aforementioned courses in the published program of study for each graduate degree offered by a department and found on the Graduate Bulletin webpage can and must be changed from an “R” grade to an assigned final grade of A, A-, B+, B, B-, C+, C, C-, D+, D, D-, F, or P. All other “R” grades in excess of the required published s.h. for a program of study found on the Graduate Bulletin webpage remain on the transcript for all terms as “R.” The GPA does not include courses designated “R.” In addition, “R”-graded courses in excess of the amount required for degree completion are not included in the number of hours completed nor the number of hours passed.

The “R” grade is not—and cannot be used as—a substitute for an “I” grade. The “I” grade is appropriate for a one-term didactic course that will be completed within a year or assigned the contracted default grade.

“P” indicates Pass. Individual schools may authorize the use of Pass/Fail only for practica, seminars, and other courses for which traditional grading is inappropriate and only when all students are graded on a P/F basis. No grade points are assigned to either the “P” or “F” grade. In a course with the P/F grading option, “P” is equivalent to A, A-, B+, B, B-, C+, C, or C-, and “F” is equivalent to D+, D, D-, or F.

No grade points are assigned to either the “CR” (Credit) or “NC” (No Credit) grade. “CR” is equivalent to A, A-, B+, B, B-, C+, C, or C-, while “NC” is equivalent to D+, D, D-, or F.

02.24.11.02 A student who receives more than two grades below “B-” or more than one grade of “F” is dismissed for failure to maintain satisfactory grades.

02.24.11.03 A minimum cumulative GPA of 3.0 is required in order to graduate.

02.24.11.04 A doctoral student must take at least 2 s.h. of Dissertation Research (9999) after having been advanced to candidacy. Because these courses reflect continuing work on a single project, the student receives a grade (A, A-, B+, B, B-, C+, C, C-, D+, D, D-, F or Pass/Fail, depending on the departmental grading system) for only the final term after having fulfilled this requirement, which entails filing the final approved dissertation with the Graduate School.

02.24.11.05 To remain in Academic Good Standing at Temple University, a non-matriculated or matriculated graduate student must achieve a term GPA of at least 3.0 for each term and maintain a cumulative GPA of at least 3.0 for all work completed at Temple University. The policy on Academic Good Standing operates in conjunction with Graduate School Policy 02.24.11.02 concerning substandard grades.

02.24.12 Incompletes

An instructor may assign an Incomplete (“I”) to a student who does not complete all coursework. The “I” may be changed to a letter grade if the student completes the coursework within one calendar year.

02.24.12.01 The student must file a contract with the faculty member of record stating what outstanding work remains to be completed. The faculty member must sign the contract and retain it in the student’s permanent departmental file. All work must be completed, graded, and the change of grade filed with the Office of the University Registrar within one calendar year of the assignment of the Incomplete.

02.24.12.02.01 Change to Incomplete Policy

Effective Fall 2003, the President instituted a policy change regarding Incompletes (see Policy 02.10.13: Incomplete Coursework Policy at http://policies.temple.edu/PDF/41.pdf) for graduate and undergraduate students. As part of the Incomplete contract, the faculty member must assign a default grade that will apply if work is not completed per the contract or within one year of the assignment of the Incomplete grade.
### Credits for Coursework in a Degree Program

No course may be used to satisfy a credit hour requirement for more than one degree, except where course requirements for one degree (master's degree) are required for a more advanced degree (e.g., Ph.D.) or have been designated as eligible to satisfy the requirements of an officially designated dual degree program.

### Repeating a Course for Additional Credit

A student may repeat an Independent Study or other course for additional credit if the course content varies each term as designated in the Graduate Bulletin.

### Repeating a Course for Credit

A student may, with the permission of the advisor and graduate program director, retake a course once in order to improve the grade. The higher grade is used to calculate the graduate GPA. The s.h. for the course are counted only once toward graduation requirements.

### Graduate Credit for Undergraduate Courses

A graduate student may take an undergraduate upper division course for graduate credit only with the advanced written permission of the student’s advisor and the dean of the school/college, prior to the first day of classes. Permission is granted only if the graduate student is required to complete more advanced work than that required of undergraduates, and the “Request to Take an Undergraduate Course for Graduate Credit” form, found in TUportal under the Tools tab within “University Forms,” specifies the nature and extent of the additional work (e.g., a research paper or project). To receive graduate credit, the student must pay graduate tuition and fees.

### Enrollment in Undergraduate Courses Not for Graduate Credit

A student admitted to a graduate program may enroll in an undergraduate course to elevate her/his level of preparation to the standard expected of an entering graduate student, but such courses cannot be used to satisfy a graduate degree requirement.

### Prerequisites

| 02.24.18.01 | A prerequisite is preparatory work that must be completed prior to undertaking specified coursework in the degree program. Credits earned completing prerequisites do not count toward the total number of s.h. required for the degree. |
| 02.24.18.02 | Grades earned in prerequisite courses, if graduate level, are included in the graduate GPA and, irrespective of level, in the determination of standards of scholarship. |

### Credit for Coursework Taken as a Non-Matriculated Student

A matriculated student may be allowed credit for up to 9 s.h. of graduate coursework, graded "B" or higher, taken before matriculation. These credits may be accepted in addition to the Advanced Standing Credit allowed if approved by the dean and the graduate council or other governance body of the school/college.

### Advanced Standing Credit

**Advanced Standing Credit (defined as credit for coursework taken prior to matriculation and outside of Temple University)**

- **02.24.20.01** Graduate coursework taken at an accredited institution prior to matriculation, and graded "B" or higher, may be accepted toward a Temple University master’s degree. (Refer to Graduate School Policy 02.24.21.02 for limitations.)
- **02.24.20.02** Graduate coursework taken at an accredited institution prior to matriculation and graded "B" or higher as part of a master's degree program may be accepted for Advanced Standing Credit toward a doctoral degree. For doctoral programs that do not require the student to complete a master's degree at Temple University, the number of Advanced Standing Credits that may be accepted by a doctoral program cannot exceed the number of graduate s.h. required for the master's degree in the same or a closely related discipline at Temple University. Individual programs may have more restrictive limits on the number of graduate s.h. eligible to be considered for Advanced Standing Credit. The deans of the school/college and the graduate council or other governance body determine the courses to be deemed eligible.
- **02.24.20.03** For a student to receive Advanced Standing Credit, the graduate program director must make a recommendation to the dean of the school/college to accept the student’s credits from a master’s degree or other graduate work taken prior to matriculation in the degree program, whether the previous work was taken at Temple University or at another institution. The dean of the school/college has final authority over accepting the recommendation to grant Advanced Standing Credit in individual cases as long as the number and type of credits accepted do not exceed those allowed by the Graduate School.

### Transfer Credit

**Transfer Credit (defined as credit for coursework taken following matriculation and outside of Temple University)**

- **02.24.21.01** The dean of the school/college and the graduate council or other governance body may accept a limited number of Transfer Credits. The coursework must be graduate level, taken at an accredited institution, and graded "B" or higher. (Refer to Graduate School Policy 02.24.21.02 for limitations.)
- **02.24.21.02** The combined number of Transfer Credits and Advanced Standing Credits (see Graduate School Policies 02.24.20.01 and 02.24.21.01) that may be accepted by a master's program cannot exceed 20% of the s.h. required for the degree (e.g., in a 30-s.h. master's degree, a maximum of 6 s.h. of credit is allowed).
### 02.24.21.03
A doctoral program may accept as many Transfer Credits as have been approved by the dean of the school/college up to the limit established by the Graduate School.

### 02.24.21.04
The Graduate School may be petitioned for an exception if the request is supported by the student's program and school/college.

### 02.24.22
**Auditing**

A student may audit a course with the written permission of the instructor at the time of registration. For this purpose, a Special Approval Form must be signed by the instructor and submitted along with a Registration/Schedule Revision Form. The student must register for the course and pay the regular per-credit fee.

### 02.24.22.01
The registration for any course may not be changed from audit to credit or vice versa after the second week of classes during the Fall or Spring term or after the first three days of classes during the Summer sessions.

### 02.24.22.02
Audited courses do not meet prerequisite or graduation requirements.

### 02.24.23
**Withdrawal**

#### 02.24.23.01
A student may "drop" a class during the first two weeks of the Fall or Spring term or Summer sessions and during customized drop/add/withdrawal dates set by Temple University. The course is removed from the transcript. The student is not financially responsible for the dropped course(s).

A student who wishes to discontinue a course after the drop period has ended may "withdraw" from a course during weeks three through nine of the Fall or Spring term; during weeks three and four of Summer sessions; and during customized drop/add/withdrawal dates set by Temple University. The course is recorded on the transcript with the notation of "W." The student is financially responsible for the course(s) from which s/he has withdrawn.

#### 02.24.23.02
A student who must withdraw due to circumstances beyond her/his control may petition for an "excused withdrawal" or "withdrawal with approved excuse." The extenuating circumstances that inhibit continued enrollment at Temple University are limited to serious medical conditions, serious family emergencies, military deployment, the student's death, and other catastrophic circumstances.

An excused withdrawal is generally only approved for all courses in a term. In exceptional cases, an excused withdrawal can be approved for a single course when the need to withdraw is directly attributed to requirements related to that course. To request an excused withdrawal, a "Petition for Withdrawal with Approved Excuse," found at http://www.temple.edu/vpus/documents/withdrawal_approved_excuse_forms.pdf, must be filed within one year from the end date of the term for which the student seeks the excused withdrawal. If the excused withdrawal is granted:

- The course is recorded on the transcript with the notation of "WE."
- The student may be financially responsible for courses from which s/he has withdrawn with an approved excuse.
- A student who is granted an excused withdrawal for medical reasons will not be permitted to return to the university until s/he presents a statement from a medical provider showing that s/he is medically ready to return to the rigors of academic work.

### 02.25
**CURRENCY AND TIME LIMITS**

Courses taken prior to matriculation may be counted toward a degree only if they meet the program's criteria for currency. Generally, courses taken within the past five years are considered current. In some schools and colleges, coursework taken in a master's degree more than five years prior to matriculation may be considered eligible for Advanced Standing Credit.

#### 02.25.11
**Continuous Enrollment/Registration**

To remain in Academic Good Standing, a graduate student must maintain continuous enrollment (i.e., 1 or more s.h. each Fall and Spring; also in the Summer for those students graduating in Summer) from the term of matriculation through the term of graduation. The only exception for continuous enrollment/registration is for a student on a Leave of Absence.

#### 02.25.11.01
A graduate student who is not continuously enrolled for two consecutive terms — whether as a result of not returning from an approved Leave of Absence term or because a Leave of Absence was never requested — is considered inactive, must apply for readmission, and must be accepted to the graduate program in order to continue. Readmitted graduate students do not retain their original Bulletin year and must follow the most current requirements for the graduate degree program.

#### 02.25.12
**Full-Time Status**

#### 02.25.12.01
To be designated full-time, a graduate student (including all recipients of Graduate School Fellowships) must be enrolled for 9 or more s.h. of coursework until all coursework is completed.

#### 02.25.12.02
To be designated full-time, a graduate student who holds an Assistantship that requires at least 20 hours of service per week must be enrolled in 6 s.h. until all coursework is completed.

#### 02.25.12.03
To be designated full-time, a graduate student who has completed required coursework for the degree must be enrolled in at least 1 s.h. of one of the following:
Graduate School Policies

9284 - Music Doctoral Performance
9994 - Preliminary Examination
9998 - Dissertation Proposal
9999 - Dissertation Research

OR any other terminal or culminating experience or project required beyond coursework to complete the degree, including Music Master Performance (9184), Master's or MFA Project (9995), and Master's Thesis (9996).

02.25.13 Conditions of Full-Time Status

02.25.13.01 No limit is set on the number of terms a student may be classified as full-time, although the expected time-to-degree is an important consideration. See the Graduate Bulletin for each program’s allotted length.

02.25.13.03 A graduate student who has completed coursework and is enrolled in at least 1 s.h. of:

9184 - Music Master Performance
9284 - Music Doctoral Performance
9994 - Preliminary Examination
9995 - Master's or MFA Project
9996 - Master's Thesis
9998 - Dissertation Proposal
9999 - Dissertation Research

will automatically be classified as full-time. Contact the Graduate School about full-time status concerns only when exceptional circumstances warrant.

02.25.14 Leave of Absence

02.25.14.01 The dean of the school/college, on the recommendation of the advisor, may grant a full-time matriculated student a Leave of Absence upon presentation of a completed “Leave of Absence Request” form.

02.25.14.01.01 As of Fall 2016, both graduate and undergraduate students have access to the Registrar’s Leave of Absence workflow, which replaces the paper form. At the graduate level, both full- and part-time degree-seeking students may apply for a Leave of Absence. A Leave of Absence must be in place by the end of each term’s schedule revision period.

02.25.14.02.02 While on a Leave of Absence, a student retains admitted student status and remains eligible for the following privileges:

• Retention of the university requirements in place for her/his academic program at the time of her/his first term at Temple and the requirements in place for her/his degree or degree concentration at the time of declaration.

• Temple email access.

• Priority and self-registration for the approved term of return.

• Library access and borrowing privileges.

02.25.14.02.03 A student granted a Leave of Absence is not considered a registered student. As a non-enrolled student, s/he is not eligible for:

• Academic advising related to progress toward completion of the degree while on a Leave of Absence.

• Financial aid disbursements during the terms while on a Leave of Absence. Students on a Leave of Absence are reported to lenders and loan service agencies as "not enrolled" and need to contact lenders for information on possible repayment requirements.

• Enrollment verification, given her/his status as "not enrolled," which could affect eligibility for health insurance, etc., while on a Leave of Absence.

• Use of Student Health Services or any other university services not listed in Graduate School Policy 02.25.14.02.02 above while on a Leave of Absence.

• Campus Housing while on a Leave of Absence.

02.25.14.03 A Leave of Absence does not extend the time limit for completing a graduate degree. A student may not be granted more than four terms of leave except for a serious condition.

02.25.15 Time Limits for a Degree

02.25.15.01 The time limit begins with the term of matriculation and ends with the term in which the degree is earned.

02.25.15.02 The time limits for a master's degree are three to six years. See the program descriptions in the Graduate Bulletin.

02.25.15.03 The time limit for a doctoral degree is seven years.
An extension of time may be requested by master’s and doctoral candidates. To ensure currency, a student who requests an extension of time beyond that allowed for a graduate degree may be required to retake coursework and/or examinations.

**Master’s Examinations**

A student may take the master’s comprehensive examination, in whole or in part, no more than twice. A student who fails all or part of the comprehensive examination twice is dismissed.

**Master’s Thesis**


**Doctoral Examinations/Culminating Experiences**

Doctoral Examinations/Culminating Experiences require a minimum of 6 s.h., with at least 2 s.h. of the 6 s.h. required to be in course number 9999. The remaining 4 s.h. can be a combination of the following course numbers: 9994, 9998, and/or 9999. Departments may require additional s.h. to fulfill Doctoral Examinations/Culminating Experiences since 6 s.h. constitute the minimum requirement. Doctoral students must maintain continuous enrollment from matriculation to graduation.

**Preliminary Examinations**

A doctoral student who has completed all coursework for the degree, but has not passed the preliminary examination, must register each Fall and Spring term for 1 s.h. of course number 9994, “Preliminary Examination Preparation.” The student must be registered for 9994 in the term in which the examination is taken, including the Summer session. A student who is required to retake the preliminary examination in whole or in part must re-register for 1 s.h. of 9994 in the term in which the examination is retaken.

A student may take the doctoral preliminary examination, in whole or in part, no more than twice. A student who fails all or part of the preliminary examination twice is dismissed.

Three or more members of the Graduate Faculty must approve the content of the doctoral preliminary examination. It must be graded fairly and in a manner that prohibits any one faculty member from determining whether a student passes or fails.

**Elevation to Candidacy**

A doctoral student is elevated to candidacy upon completion of all coursework and examination requirements (including foreign language or other proficiency examinations) for the degree after filing an approved dissertation proposal along with the “Dissertation Proposal Transmittal for Elevation to Candidacy” form, found in TUportal under the Tools tab within “University Forms,” to the Graduate School.

**Doctoral Dissertation**

A sponsoring committee must include at least three members of the Temple University Graduate Faculty, two of whom, including the chair, must be members of the candidate’s degree program or approved to serve in that capacity with the advanced written approval of the Graduate School.

A committee may be expanded to include other Temple University faculty and/or qualified experts from outside Temple University, provided that a majority of the members of the Doctoral Advisory Committee are members of the Temple University Graduate Faculty.

If the proposed additional member is not a member of the Graduate Faculty, the chair of the Doctoral Advisory Committee must request approval by submitting the “Nomination for Service on Doctoral Committee” form, found in TUportal under the Tools tab within “University Forms,” and a current curriculum vitae to the Graduate School. Approval of the member must be received prior to the approved proposal being filed with the Graduate School.
02.28.11.04 If a change is made in the composition of the Doctoral Advisory Committee, the change must be approved by the chair of the initial committee and the dean of the school/college. The change must be noted on the “Request for Change in Dissertation Committee” form, found in TUportal under the Tools tab within “University Forms,” and filed with the Graduate School prior to posting the final defense.

02.28.11.05 The dean of the school/college and the graduate council or other governance body define who is responsible for approving the composition of Doctoral Advisory Committees in their respective school/college.

02.28.11.06 The chair and each member of the Doctoral Advisory Committee work with the student to provide guidance to develop a proposal in which the student demonstrates broad knowledge of the field, current methods of investigation, and the ability to conduct the proposed research on a realistic timeline.

02.28.11.07 Emeritus faculty may serve on a dissertation sponsoring or examination committee provided the emeritus faculty member retains Graduate Faculty status by continuing to satisfy college/department criteria and responsibilities established for Graduate Faculty status.

02.28.11.08 Emeritus faculty may chair dissertations if:
• the emeritus faculty member was the chair of an approved dissertation proposal submitted to the Graduate School prior to retirement; and
• the emeritus faculty member continues to satisfy college/department criteria and responsibilities established for Graduate Faculty to chair dissertations.

02.28.12 Dissertation Proposal
02.28.12.01 A student who has passed preliminary examinations but has not filed an approved dissertation proposal with the Graduate School by the last day to Drop/Add in the term must register each Fall and Spring for course number 9998, “Pre-Dissertation Research.”

02.28.12.02 When all members of the Doctoral Advisory Committee have signed the proposal, the proposal represents an agreement between the student and the committee that the theoretical and methodological approaches being taken are considered acceptable if the work is conducted appropriately and within the timeline proposed. The Doctoral Advisory Committee may not unilaterally require significant theoretical or methodological changes. The committee and the student may jointly agree on such changes but are advised to put the changes in writing.

02.28.12.03 Within 30 days of all members of the Doctoral Advisory Committee signing the proposal, it must be filed with the student’s department and with the Graduate School. The proposal must include an official “Dissertation Proposal Transmittal for Elevation to Candidacy” form, found in TUportal under the Tools tab within “University Forms,” that bears the signatures of the Doctoral Advisory Committee members and the date approved.

02.28.13 Dissertation Research
02.28.13.01 A doctoral candidate must register each Fall and Spring term, and in the term in which the oral examination is held, for course number 9999, “Dissertation Research.”

02.28.13.02 If the oral examination is held in the Summer session, the student must register for 9999 in the Summer session but will not be required to register in the Fall if the 30-day deadline for making final revisions extends into the Fall.

02.28.13.03 A doctoral student must complete a minimum of 2 s.h. of course number 9999, “Dissertation Research,” after elevation to candidacy.

02.28.14 Defense of Doctoral Dissertation
02.28.14.01 To be defensible, a doctoral dissertation must:
• meet the standards for original research or other creative work in the field;
• uphold the ethics and standards governing research or creative work in the discipline;
• demonstrate mastery of the research methodology and subject matter;
• demonstrate an understanding of the contribution of the body of knowledge to the discipline or disciplines involved; and
• meet the standard of writing and presentation expected in any academic or scholarly publication or production, including grammar, spelling, formatting, and general readability.

02.28.14.02 A candidate whose dissertation fulfills the standards of scholarship and the commitments made in the proposal, and any modifications made to it as specified above, is entitled to an oral defense of the dissertation.

02.28.15 Dissertation Examining Committee
02.28.15.01 A Dissertation Examining Committee is responsible for evaluating the quality of the dissertation and conducting the oral defense.
A Dissertation Examining Committee must include the chair and all members of the Doctoral Advisory Committee and at least one outside examiner not previously involved with the dissertation writing or the Doctoral Advisory Committee.

The chair of the Dissertation Examining Committee must be a member of the Graduate Faculty but may not be the chair of the candidate’s Doctoral Advisory Committee. This person, responsible for coordinating the defense, must be identified when the defense is posted with the Graduate School. If the dean of the school/college and the graduate council have a written policy that calls for the chair of the Dissertation Examining Committee to be elected only when the defense is convened, the person named in the posting to the Graduate School remains responsible for filing all official forms with the school/college and Graduate School.

The candidate must submit the official, signed “Announcement of Dissertation Defense” form, found in TUportal under the Tools tab within “University Forms,” and a current curriculum vitae to the Graduate School at least four weeks in advance of the scheduled defense. Approval must be received prior to posting the oral defense.

To be eligible to post the Oral Defense/Final Examination, the candidate must have:

• an approved Dissertation Examining Committee;

• distributed a complete copy of the final dissertation to all members of the Dissertation Examining Committee; and

• identified the chair or the person responsible for the Dissertation Examining Committee in accordance with the policies of the school/college.

The candidate must submit the official, signed “Announcement of Dissertation Defense” form, found in TUportal under the Tools tab within “University Forms,” to the Graduate School 10 or more working days before the scheduled defense. A defense cannot be held without written confirmation of approval and receipt of the defense paperwork from the Graduate School.

The announcement of the oral defense must be posted publicly. Any member of the Graduate Faculty has the right to request a copy of the dissertation from the dean of the school/college in advance of the defense and may participate in the defense.

If a person other than a member of the Dissertation Examining Committee or Graduate Faculty wishes to be present at the oral defense as a guest, the chair of the Dissertation Examining Committee is responsible for determining the appropriateness of the request and for making the final decision.

All members of the Dissertation Examining Committee must be physically present for the defense, except in the case of an emergency. The Graduate School may, in serious circumstances, give prior written approval for no more than one member to be absent. The candidate and chair of the Doctoral Advisory Committee must, however, both be present for a valid defense.

A member of the Dissertation Examining Committee whose absence has been approved by the Graduate School must still participate in the defense through some means (e.g., telephone, video-conference, written comments, and/or questions to be asked by another member), except in the case of a sudden, serious emergency.

The Dissertation Examining Committee evaluates both the dissertation and a candidate’s performance in the oral examination to determine whether or not the candidate passes. Only officially recognized members of a Dissertation Examining Committee have the authority to determine whether or not the candidate passes the final defense.

Doctoral candidates who pass the oral defense may be required to make revisions to the dissertation as a condition of completing the degree. The chair of the Doctoral Advisory Committee is typically responsible to review and approve revisions, although any member of the Dissertation Examining Committee may require the candidate to submit a final draft for approval. The final revised dissertation must be submitted to the Graduate School within 30 calendar days of the oral defense or the defense is nullified and another oral defense must be scheduled.

If a Dissertation Examining Committee requires substantial revisions that cannot be made within 30 calendar days, the committee must suspend the defense until a majority agrees that the dissertation is sufficiently revised to be defensible. A candidate must repost the oral defense with the Graduate School. The chair of the Doctoral Advisory Committee is responsible for notifying the Graduate School of the revised defense.

02.28.19 Authorship and Prior Publication
A doctoral dissertation may have only one author. A candidate’s previously published work may be included in the dissertation if the work meets the following criteria:

- The research was conducted by the candidate while a doctoral student at Temple University.
- It has not been used to meet the requirements for another degree.
- It is not co-authored, unless the role of the candidate was clearly defined in the co-authored work.
- It is logically connected with and integrated into the dissertation.
- By its inclusion, it does not violate any existing copyright or contractual agreement.
- Co-authored works that do not meet the criteria above may be included as appendices if they include the names of all authors and the contribution of the candidate is stated.

02.28.20 Filing Dissertations

02.28.21 Final Authority Over Doctoral Dissertation
The Graduate School and the Graduate Board have the authority to review and approve all doctoral dissertations prior to awarding the degree.

02.29 ACADEMIC APPEALS TO THE GRADUATE BOARD

02.29.11.01 Title IX of the Educational Amendments Act requires that each college or university establish due procedures for the resolution of grievances. A student should consult her/his school/college for information about filing grievances.

02.29.11.02 A graduate student must follow all school/college and departmental policies and procedures governing grade appeals and appeals for all other academic matters. The Graduate Board and Graduate School have authority over reinstatement after academic or administrative dismissal. A student must file a "Petition to the Graduate School or Graduate Board Student Appeals Committee for Reinstatement," found in TUportal under the Tools tab within “University Forms,” with the Graduate School to initiate an appeal to either body for reinstatement. A student who has been academically or administratively dismissed and no longer has access to TUportal should contact the Graduate School for a copy of the reinstatement form.

02.29.12 Petitions for Reinstatement After Academic Dismissal
A graduate student may file a "Petition to the Graduate School or Graduate Board Student Appeals Committee for Reinstatement," found in TUportal under the Tools tab within “University Forms” or available from the Graduate School directly, with the Graduate Board Student Appeals Committee following dismissal:

02.29.12.01 If the student has failed the comprehensive or preliminary examinations, in whole or in part, twice.
02.29.12.02 If the student has failed to maintain satisfactory grades in accordance with Standards of Scholarship in the university, school/college, and/or program.
02.29.12.03 If the student has failed to make academic progress as defined by the school/college and program.

02.29.13 Petitions for Reinstatement After Administrative Dismissal
A student who has been administratively dismissed (i.e., has exceeded the time limit or failed to maintain continuous enrollment and is therefore ineligible to register, or who has withdrawn) may file a "Petition to the Graduate School or Graduate Board Student Appeals Committee for Reinstatement" by first contacting the Graduate School for a copy of the reinstatement form. A representative for the Graduate School may respond to these petitions administratively or refer them to the Graduate Board Student Appeals Committee.

02.29.14 Appeals of Graduate Board Decisions
A student can appeal decisions by the Graduate Board Student Appeals Committee only on procedural grounds. The appeal should be directed to the Provost.

02.29.15 Readmission
A student who has withdrawn, been dismissed for failure to maintain continuous enrollment for more than one term, or has exceeded the time limit and is therefore ineligible to register, may be required to file a new Application for Admission. See https://www.temple.edu/grad/admissions/howtoapply.htm for the appropriate application link at Temple University. If accepted, the student is considered newly matriculated at the time of admission and will be required to complete all current program requirements.

02.30 EXIT REQUIREMENTS (Restatement of Graduate School Policy 02.23.15.04 on Applying for Graduation)
All students must apply for graduation and pay the associated fees by the deadline listed in the Temple University Academic Calendar and/or in the version of the Graduate School Calendar adapted for graduate students. This is the only means by which a diploma is produced and an awarded degree transcripted. The graduation application is accessed through TUportal by selecting Self Service Banner (SSB), then Student » >Student Records » > Apply to Graduate.

Scope of Policy and Rationale for Students Called to Military Service Obligation

Temple University is governed by federal and state laws on the duties to and the rights of students who are members of the U.S. Armed Forces, including the National Guard and the reserves, when they are temporarily unable to attend classes or have to suspend their studies due to service requirements. Policy 03.70.11: Temple University Policy for Students Called to Military Service Obligation (http://policies.temple.edu/getdoc.asp?policy_no=03.70.11) is intended to conform fully to pertinent federal and state laws.

Policy Statement

I. Withdrawal from classes for a military service obligation:

1. Students called to a military service obligation should contact the Office of the University Registrar, Second Floor, Conwell Hall. Each such student has the following options:

   a. If prior to the official drop/add deadline, drop classes and receive a full refund.

   b. If after the official drop/add deadline, drop from classes and receive a full refund. A grade notation of "M" will be applied to each course to indicate drop due to military obligation.

   c. Receive an "Incomplete (I)" if eligible according to university policy. If the student chooses this option, then if the student is not able to fulfill the course completion requirement(s), regardless of the circumstances, the student cannot later choose option "a" above. (See Policy 02.10.13: Incomplete Coursework (http://policies.temple.edu/PDF/41.pdf).)

2. Students should provide advance written notice with supporting documents of their military service obligation to the Office of the University Registrar.

   a. If unable to provide advance notice of the military service due to military necessity, students will submit at the time of reenrollment an attestation that the student performed service in the uniformed services that necessitated the student's absence from the institution.

II. Reenrollment for service members after a military service obligation:

1. Students will be promptly reenrolled with the same academic status1 when last in attendance or last admitted, subject to paragraphs 2 and 3 below. Temple will make reasonable efforts2 at no extra cost to the students to help them become prepared or to enable the students to complete their program. However, if it is determined after reasonable efforts, that any such student is unable to complete her/his program or that there are no reasonable efforts that can be taken to prepare the student to resume the program at the point where s/he left off or to enable the student to complete the program, Temple is not required to readmit the student upon her/his return.

2. Students will be promptly reenrolled if the cumulative length of the absence and of all previous absences by reason of service in the uniformed services does not exceed five years. Students whose previous absences cumulatively exceed five years are subject to the established reenrollment policy and procedures.

3. Students who seek reenrollment will provide to Temple documentation to establish that the student has not exceeded the service limitation of total cumulative absence of five years.

III. Additional Services

Graduate students may have special problems resulting from a military service obligation, such as a maximum number of years permitted to complete a particular academic program. Graduate students who need an extension or adjustment to their programs due to military service obligations should contact the Graduate School, Fifth Floor, Carnell Hall.

Veterans' tuition benefits at Temple are administered by the Office of the University Registrar.

1 "Academic status" is defined by the Code of Federal Regulations, 34 CFR 668.18, et seq.

2 "Reasonable efforts" is defined by the Code of Federal Regulations, 34 CFR 668.18, et seq.

Notes

1. Dates of official enactment and amendments:
   Amended by the President on September 20, 2001. First effective Fall 2001.
   Amended by the President in May 2015. First effective December 3, 2014.

2. History:
   Supersedes Presidential Policy Statement No. I-23, Temple University Policy for Students Called to Active Military Service.
Supersedes previous version designated as Presidential Policy 03.70.11, Temple University Policy for Students Called to Military Action. The December 2014 amendment aligns Temple’s policy with requirements of the Department of Defense readmission policies and Department of Education requirements for returning service members (ED 34 C.F.R. 668.8 and 668.18 respectively).

3. Cross References:

- Policy 02.20.11: Leave of Absence (Graduate) (http://policies.temple.edu/PDF/340.pdf)
- Policy 02.10.13: Incomplete Coursework (http://policies.temple.edu/PDF/41.pdf)
Tuition and Fees

Pennsylvania Residency Classification

Based on a student’s domicile, Temple University has two tuition schedules. One is relevant for Pennsylvania residents, and the other for out-of-state residents and international students.

For tuition purposes, Pennsylvania residency is determined in accordance with the criteria outlined in the “Pennsylvania Residency Guidelines” (http://www.temple.edu/registrar/documents/downloads/PennsylvaniaResidencyGuidelinesandApplication.pdf). Questions about Pennsylvania residency, individual student status, change of domicile, or appeals for residency classification are answered on the website of the Office of the University Registrar.

2018-2019 Tuition

Tuition costs are priced per credit, as shown below by school and college for all graduate programs. The amounts listed are applicable for the Fall and Spring terms, as well as the various Summer sessions, of the 2018-2019 academic year:

<table>
<thead>
<tr>
<th>School/College/Program</th>
<th>Pennsylvania Residents</th>
<th>Out-of-State Residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tyler School of Art</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Architecture</td>
<td>$1,106</td>
<td>$1,451</td>
</tr>
<tr>
<td>Fine Arts (M.F.A.)</td>
<td>$1,110</td>
<td>$1,474</td>
</tr>
<tr>
<td>All other programs</td>
<td>$916</td>
<td>$1,261</td>
</tr>
<tr>
<td>Center for the Performing and Cinematic Arts/Boyer College of Music and Dance</td>
<td>$1,038</td>
<td>$1,383</td>
</tr>
<tr>
<td>w/the exception of Music Education M.M. (online)</td>
<td>$762</td>
<td>$762</td>
</tr>
<tr>
<td>Center for the Performing and Cinematic Arts/School of Theater, Film and Media Arts</td>
<td>$1,022</td>
<td>$1,367</td>
</tr>
<tr>
<td>Fox School of Business and Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M.Acc.¹</td>
<td>$1,114</td>
<td>$1,114</td>
</tr>
<tr>
<td>Executive M.B.A.</td>
<td>$1,999</td>
<td>$1,999</td>
</tr>
<tr>
<td>Executive D.B.A.</td>
<td>$2,300</td>
<td>$2,300</td>
</tr>
<tr>
<td>M.B.A.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; Global¹</td>
<td>$1,188</td>
<td>$1,245</td>
</tr>
<tr>
<td>&gt; Online</td>
<td>$1,245</td>
<td>$1,245</td>
</tr>
<tr>
<td>&gt; Part-Time¹</td>
<td>$1,188</td>
<td>$1,188</td>
</tr>
<tr>
<td>M.S. programs not listed above¹</td>
<td>$1,114</td>
<td>$1,245</td>
</tr>
<tr>
<td>Ph.D. programs</td>
<td>$898</td>
<td>$1,231</td>
</tr>
<tr>
<td>Kornberg School of Dentistry</td>
<td>$848</td>
<td>$1,133</td>
</tr>
<tr>
<td>College of Education</td>
<td>$916</td>
<td>$1,261</td>
</tr>
</tbody>
</table>

1 Additional fees apply for select programs; inquire of the Fox School of Business and Management.

For a full tuition schedule and to access the tuition calculator, visit https://bursar.temple.edu/tuition-and-fees/tuition-rates.

2018-2019 Fees

Each academic term, all enrolled students are assessed the "University Services Fee," which funds activities, computers and technology, facilities, and student health services:

<table>
<thead>
<tr>
<th># of Credits</th>
<th>Fall and Spring Terms Fee</th>
<th>Fee per Summer Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>9+</td>
<td>$445</td>
<td>$224</td>
</tr>
<tr>
<td>5.0-8.9</td>
<td>$319</td>
<td>$170</td>
</tr>
<tr>
<td>1.0-4.9</td>
<td>$163</td>
<td>$102</td>
</tr>
</tbody>
</table>

Other fees are exclusive to graduate students on an "event" basis:

<table>
<thead>
<tr>
<th>Graduate School Event</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application</td>
<td>⁴</td>
</tr>
<tr>
<td>Online</td>
<td>$60</td>
</tr>
<tr>
<td>Paper</td>
<td>$75</td>
</tr>
<tr>
<td>Deposit</td>
<td>$100 minimum¹</td>
</tr>
<tr>
<td>Leave of Absence</td>
<td>$25</td>
</tr>
<tr>
<td>Dissertation/Thesis Processing</td>
<td>$50</td>
</tr>
<tr>
<td>Certificate</td>
<td>$25</td>
</tr>
</tbody>
</table>

² Inquire of the department as deposit amounts vary by program.

All tuition and fees are subject to change by action of the Board of Trustees.
Financial Information

Graduate students are eligible for financial assistance from federal, state, private, and university sources. To qualify for most types of financial aid, students must first be admitted to a graduate program. Questions about financial assistance should be directed to Temple University’s Office of Student Financial Services (http://sfs.temple.edu).

Federal Support
Federal Stafford Loans
Applying for Federal Stafford Loans requires completion of the Free Application for Federal Student Aid (FAFSA). At Temple University, unsubsidized Stafford Loans are available to full-time graduate students up to a maximum amount of $20,500 annually.

Federal Work Study
Eligibility for the Federal Work-Study Program is based on the applicant’s need as determined by the information on the applicant’s FAFSA. In addition, students must be enrolled at least half-time and maintain satisfactory academic progress. Students are paid bi-weekly for hours worked.

University Support
Temple University provides financial support that includes assistantships, internships, externships, and fellowships. Assistantships, internships, and externships are awarded through departments and non-academic units based on need and fit. Interested applicants should consult with advisors or department chairpersons about the application procedures relevant to a desired position, as defined herewith:

- **Teaching Assistant:** Student engages in lecturing, instructing, and supervising academic activities in the classroom, laboratory, studio, theater, or recitation or tutorial section; providing academic support in a laboratory, studio, or office; or working in another setting in which academic instruction takes place. Teaching must be assigned according to Policy 04.21.12: Workload Guidelines for Teaching Assistants and Research Assistants (http://www.temple.edu/grad/finances/documents/Policy_04.21.12_Workload_Guidelines.pdf). Expressly excluded are teaching of elementary or secondary students as part of community service projects and teaching that is not for university credit or is otherwise non-academic in nature, such as for recreational purposes.

- **Research Assistant:** Student engages in archival, clinical, field, laboratory, library, museum, or survey research or in another research activity supervised by a faculty member or researcher on a sponsored project. Completion of the "RA Individual Declaration of Academic Benefit" form is required for the term of the award.

- **Academic Intern:** Student engages in academic, performance, and professional activities that are central parts of the instructional program and directly related to the student's degree program (e.g., clinical practice, musical or theatrical production), but cannot be classified as either research or teaching. The activities must be directly supervised by a faculty member/preceptor in the student's school/college.

- **Graduate Extern:** Student provides service that may entail academic and professional experience or development, although the activities are not directly supervised by a faculty member/preceptor in the student’s degree program.

Assistantships
Teaching Assistantships require the performance of instructional activity. It is important to note that all graduate students who are assigned instructional responsibilities, where the language of instruction is English, must be certified as competent in spoken English. Consult your school/college dean’s office for information on the SPEAK test process. As an alternative to teaching, Research Assistantships allow students to pursue research under the direction of a faculty member.

Assistantships, whether teaching or research, include both a stipend and tuition. To be considered for a Teaching or Research Assistantship, a student must have achieved a GPA of 3.25 or higher. In addition, the minimum GPA of 3.25 must be maintained throughout the duration of the assistantship.

Internships and Externships
Temple University offers a variety of Academic Internships and Graduate Externships to a limited number of graduate students. Academic and administrative departments determine the selection process for these awards. To be considered for an internship or externship, a student must have achieved a GPA of 3.25 or higher. In addition, the minimum GPA of 3.25 must be maintained throughout the duration of the internship/externship.

Interested students should consult the department/program of their choice for specific details. Internships include support in the form of a stipend and tuition. Externships provide a stipend. Recipients of these awards are required to perform up to 20 hours of service per week.

University-Wide Fellowships
Temple University offers a limited number of fellowships to support outstanding students in doctoral or master of fine arts degree programs. Self-nomination is not permitted. Nominations for fellowships are submitted on one of the Fellowship Nomination forms by the department/program only. Competition for fellowship awards occurs annually in the month of February. Specific deadlines are found on the Graduate School calendar and/or on the forms.

Fellowships typically provide support, including a stipend and tuition, for four years, with shorter terms for those enrolled in a master of fine arts degree program. The fellowship recipient is typically supported for two years with no service required or permitted. For the other two years, fellowship recipients are required to perform up to 20 hours of service per week as a Teaching Assistant or Research Assistant. Competition is for three different classifications of fellowship:

- Presidential and Presidential Future Faculty Fellowships are the most prestigious awards. Competition is reserved for only the most outstanding candidates.

- University Fellowships are awarded to outstanding incoming graduate students. These awards are intended to support students who demonstrate outstanding potential for success in their chosen fields.

- Future Faculty Fellowships are intended to attract outstanding students who would diversify the professoriate. Candidates are newly admitted graduate students from underrepresented groups in the applicant’s discipline who show exceptional leadership and/or have overcome significant obstacles in pursuing an academic career.
The Fellowship Nomination forms for the forthcoming academic year include those for Presidential and Presidential Future Faculty Fellow nominees, as well as for University and Future Faculty Fellow nominees. To be considered for nomination, applicants are urged to submit materials to the program of application by December 15.

**University Grants**

Two highly competitive awards are designed to accelerate the degree completion process by offering significant financial support to promising students. Both awards are nonrenewable. When application is made, the applicant must acknowledge that, if selected as an award recipient, s/he becomes ineligible for any other funding from Temple University both during the period of award and beyond. These grants are awarded once during the Fall term and once during the Spring term. The application process requires a student application and a departmental nomination form.

**Doctoral Dissertation Completion Grant**

For the Doctoral Dissertation Completion Grant, departments nominate doctoral students who have completed all requirements for the degree, except the required dissertation, and are advanced to candidacy. The Doctoral Dissertation Completion grant includes a stipend and one credit of tuition remission. The award is for five months.

**Master of Fine Arts Project Completion Grant**

The Master of Fine Arts Project Completion Grant carries a stipend and one credit of tuition remission. Departments nominate students who have completed all requirements for their degrees, except the required project. The award is for five months.

**First Summers Research Initiative**

The First Summers Research Initiative (FSRI) is a competition for summer research awards for domestic doctoral students at Temple University who are traditionally underrepresented in their field of study. The purpose of these awards is to provide eligible students with funding to encourage their pursuit of research activity in the first, second, and/or third summers of their graduate studies. The FSRI Award is valued at $6,000. Applicants can apply each summer until they achieve candidacy, although preference is given to first-time applicants.

Applicants for the FSRI award must meet the follow criteria:

1. Enrollment in a Ph.D. program at Temple University in which the student is considered underrepresented in her/his field of study (i.e., as an ethnic minority or as a woman in the STEM disciplines), as determined by both National Science Foundation data and Temple demographics
2. U.S. citizenship
3. A minimum GPA of 3.5 at the time of the award
4. A formalized mentorship for the summer research experience with a faculty member at Temple University
5. Submission of a detailed plan for the mentored summer research experience prepared by the applicant and her/his faculty mentor, along with a cover letter from the mentor

The following criteria disqualify an applicant to garner the award:

1. Receipt of financial aid from Temple University in the form of fellowship, assistantship, internship, or externship or employment as a student worker during the summer award period

**Student Health Insurance**

All full-time graduate students have the opportunity to enroll in one of Temple University’s health insurance plans. Teaching Assistants, Research Assistants, Academic Interns, and Graduate Externs receive health insurance benefits. Fellowship recipients have similar options. For questions regarding the plans, please visit www.temple.edu/hr/students.
Graduate Student Services

Numerous resources are available to graduate students at Temple University to enhance their educational and personal experiences. Chief among these are:

- Career Center
- Disability Resources and Services
- Military and Veteran Services Center
- Student Health and Wellness

Career Center

www.temple.edu/provost/careercenter/
220 Mitten Hall
1913 N. Broad Street
Philadelphia, PA 19122
careercenter@temple.edu
215-204-7981
Fax: 215-204-4462

Open Monday–Friday, 8:30 a.m.–5:00 p.m.
Drop in to meet with a career coach for 15 minutes: Monday–Friday, 11:00 a.m.–3:00 p.m.
Schedule an appointment for an extended 30-minute session.

The Career Center at Temple University is a central resource that empowers students and alumni through comprehensive career development services. Every Temple graduate student can own her/his future through both in-person and online career services. Expert advice on preparing a resume, writing a cover letter, and networking is available. Graduate students can also meet with career coaches to receive the tools and guidance to explore their career options, build their professional brand, gain experience, and make their path for life-long career success. In addition, students can access a variety of online career resources such as a list of career services offerings in select schools and colleges, as found at www.temple.edu/provost/careercenter/resources/online.html.

Disability Resources and Services

disabilityresources.temple.edu
100 Ritter Hall Annex
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122
drs@temple.edu
215-204-1280
TTY: 215-204-1786
Fax: 215-204-6794

Open Monday–Friday, 8:30 a.m.–5:00 p.m.
Appointments should be made in advance with a staff member.

Temple University is committed to the full inclusion of students with a disability in all programs and services. The goal is to build a learning community wherein people with diverse abilities are valued and included in all facets of life at the University.

Disability Resources and Services (DRS), a free and confidential service, facilitates access and accommodations on an individualized basis and provides opportunities for students with a disability to grow and develop.

Students who connect with DRS include those with physical, visual, hearing, and speech disabilities; health, mental health, and autism spectrum conditions; attention deficits; brain injuries; and learning disabilities. Many student veterans, student athletes, honors students, and international students who have a disability connect with DRS.

Dedicated, knowledgeable DRS staff meet with graduate students to determine eligibility for accommodations and discuss strategies for educational success. DRS develops programs and workshops to support student retention and provides training and awareness about access and inclusion to the entire University community.

All graduate students in need of such services should contact DRS on Main Campus to register, although services are available at all Temple University campuses. Each campus has an identified DRS liaison to aid the graduate student in accessing these services:

- Academic accommodations, including:
  - Alternate format materials
  - Note-taking support
  - Sign language interpreters and CART services
  - Testing accommodations
- Accessible housing
- Assistive technology
- Career development
- Intake assessment
- Mentoring and leadership development opportunities
- Scholarships

Military and Veteran Services Center

www.temple.edu/veterans
601 Conwell Hall
1801 N. Broad Street
Philadelphia, PA 19122
tuvets@temple.edu
215-204-VETS or 215-204-6130

Open Monday–Friday, 8:30 a.m.–5:00 p.m.

Temple University is committed to assisting veterans, military students, and their dependents with making a smooth transition from the military to student life. To assist with this transition, the Military and Veteran Services Center works with various departments to plan and implement educational and social programs to help veteran students succeed at Temple University. Temple is recognized for its support of U.S. military veterans and active duty service members in their pursuit of a college education. Designated by U.S. News & World Report as one of the nation’s “Best Colleges for Veterans” and ranked in the top 20% of Military Friendly® Schools by G.I. Jobs Magazine since 2010, Temple University, a proud participant of the Yellow Ribbon Program, provides access to excellence and opportunities for success for military service members and veterans who are admitted to and/or enrolled at Temple. Each school and college, as well as all the key student services departments that provide direct service to veterans, has a designated veteran point-of-contact person to help assist students as well as a veteran academic advisor.

PA Act 46

Pennsylvania Act 46 of 2014 requires public institutions of higher education in Pennsylvania to provide veteran students, as defined...
in the Act, with preference in course scheduling. Non-compliance may be reported to the Pennsylvania Department of Education by submitting the Higher Education Student Complaint form found at www.education.pa.gov/ (http://www.education.pa.gov).

**PA Act 11**

Under Chapters 30, 31, 33, and 35 and Sections 1606 and 1607, Pennsylvania Act 11, which became law on July 1, 2015, mandates Temple University to charge the in-state tuition rate to out-of-state students living in Pennsylvania and using their GI Bill benefits. Eligible students have their student account adjusted to reflect the in-state tuition rate. Temple also reviews the financial aid package and makes any necessary adjustments based on the in-state tuition rate.

**Veterans Certification Process**

Veterans may enroll as full-time or part-time students, but benefits are based on enrollment status. To access your benefits, you must complete the following steps before the beginning of the first academic term in which you are enrolled at Temple University:

- Write your TUID on the front of your Certificate of Eligibility. To obtain a Certificate of Eligibility, visit www.benefits.va.gov/gibill/ (http://www.benefits.va.gov/gibill) and click on the "Apply for Benefits" tab or call 1-888-GI-Bill1.
- Upload the Certificate of Eligibility and/or other documents in the Veterans Benefit Declaration link in the Registrar's Channel on TUportal.
- If you are receiving Chapter 35 DEA benefits, you must also write the social security number of the parent who transferred benefits.

**NOTE:** Not submitting your Certificate of Eligibility in advance can negatively affect the timely and accurate processing of your program benefit payments.

To use your GI Bill benefits for a term, you must be registered for classes. Click on the Veterans Benefit Declaration link in the Registrar's Channel on TUportal. Then select the term, choose "yes" under process benefits, provide your credit hours, and click "save declaration." This process notifies the certifying official that you are ready to have your benefits processed for that term.

If you do not want to use your GI Bill benefits for the term, go to the Veterans Benefit Declaration link, select the term, choose "no" under process benefits, and click "save declaration."

The Veterans Coordinator in the Office of the University Registrar is available to answer questions concerning VA benefits at 215-204-7378 or OurVeterans@temple.edu. For more information on VA benefits, go to www.benefits.va.gov/gibill/ (http://www.benefits.va.gov/gibill).

**Student Health and Wellness**

**Student Health Fee**

As part of the University Services Fee, all students are charged each term during the academic year to help subsidize the basic diagnostic and treatment services provided by health care providers at four campuses. Some services are not covered by the Student Health Fee, including, for example, dispensed medications, orthopedic supplies, and immunizations. Extensive laboratory testing is available at Main Campus, but only office laboratory tests are performed at the Ambler and Health Sciences Center campuses.

**Student Health Services**

www.temple.edu/studenthealth
1810 Liacouras Walk, Fourth Floor
Philadelphia, PA 19122
215-204-7500
Fax: 215-204-4660

Open Monday–Tuesday, 8:30 a.m.–5:00 p.m.; Wednesday, 10:00 a.m.–5:00 p.m.; Thursday–Friday, 8:30 a.m.–5:00 p.m.

Student Health Services strives to promote a high standard of health among all Temple University students through programs in preventive medicine and health education, in addition to diagnosis and treatment of injury and illness. Care providers include doctors, nurse practitioners, and nurses. Services offered at the Main, Ambler, and Health Sciences Center campuses include basic medical care, an immunization/allergy injection clinic, family planning services, and a self-care center. Other services offered at Main Campus include nutritional consultation and HIV testing.

**Tuttleman Counseling Services**

counseling.temple.edu/
1810 Liacouras Walk
Philadelphia, PA 19122
215-204-7276
Fax: 215-204-5419

Open Monday–Friday, 8:30 a.m.–5:00 p.m.
Walk-In Clinic Hours: Monday–Tuesday, 10:00 a.m.–1:30 p.m.; Wednesday, 9:00 a.m.–12 noon; Thursday–Friday, 10:00 a.m.–1:30 p.m.
Appointments are required except in emergency situations when immediate care is required.

Tuttleman Counseling Services (TCS) is a comprehensive provider of mental health services to Temple's student population. Services are free and confidential for all registered students. Our mission is to support and enhance the psychological functioning of our students and thereby support the academic mission of the University. It is recognized that our students are dealing with a variety of major life issues as they pursue their education, including affiliation, career choices, identity formation, relationships, and separation and individuation. In addition, some students come to us with prior mental health histories and medication needs.

TCS is first and foremost a provider of individual and group counseling services, although couple and family counseling are available at the student's request. This foundation provides students with support and guidance for a wide variety of problems, from adjustment issues and transitory difficulties to more serious psychological problems and even severe mental illness. Whenever possible, we seek to help students avoid or reduce self-harm that may stem from making poor choices. TCS provides services in the following areas:

**Psychological Services** is staffed by licensed psychologists who provide brief individual, couple, and group counseling, as well as referral, consultation, and educational workshops. Some common issues that are addressed, either individually or in groups, include academic performance; anxiety, depression, or stress; career decisions; eating disorders; family problems; LGBTQIA issues; loss and/or grief; procrastination; racism; relationship problems; sexism; sexuality and sexually-transmitted diseases; shyness; and vocational counseling. The Psychological Services staff also assists students in locating resources.
and other services available on campus or in the city that are specific to their needs.

**Psychiatric Services** is committed to caring for the mental health needs of Temple University students by providing psychiatric evaluations, medication consultations, and short-term individual psychotherapy. The psychiatrist also responds to referrals from other TCS units and serves as a liaison to the Health Sciences Center. Students are seen by appointment, except in emergency situations when immediate care is required.

**CASA (Campus Alcohol and Substance Awareness)** is a comprehensive program focusing on all aspects of alcohol and other drug use and abuse. The CASA program is staffed by counselors who work with students individually and in groups.

**SACE (Sexual Assault Counseling and Education)** staff provide crisis intervention, individual counseling, survivor advocacy, and groups for survivors of assault, child sexual abuse, domestic violence, and sexual harassment.

**Wellness Resource Center**

wellness.temple.edu/
Mitten Hall, Lower Level
1913 N. Broad Street
Philadelphia, PA 19122
tuheart@temple.edu
215-204-8436
Fax: 215-204-9710

Open Monday–Friday, 8:30 a.m.–5:00 p.m.

The Wellness Resource Center is the on-campus health education and prevention office. Staffed by master’s- and doctoral-level health professionals and supported by peer health educators, the Wellness Resource Center is committed to providing comprehensive wellness resources and services that empower Temple University students to make informed, healthier choices and achieve academic success. Center staff also work with faculty, staff, and departments in training and consultation capacities to support them in addressing student health needs and concerns. The Wellness Resource Center’s multifaceted model helps to create a collective consciousness of wellness on Temple’s campus with the hope of producing students who are not only well-educated but also healthy. Training, consultation, and programs on a variety of topics are offered, including alcohol and sex; alcohol and substance abuse; body image and nutrition; diversity; healthy relationships; HIV; LGBTQIA; mental health; safer sex; self-esteem; sexual assault, rape, and dating violence; sexuality: orientation, gender, and identity; sexually transmitted infections; and stress/time management.

The Wellness Resource Center provides a safe space for students to receive free, anonymous, or confidential health information in a supportive environment. Students are engaged in a variety of ways, including campus-wide wellness events, condom sales, course instruction, health programming, health-related referrals, HIV testing, individual health education sessions, peer education, and promotion of a healthier campus environment.

The Wellness Resource Center also offers students opportunities to get involved as peer educators and interns. These students receive comprehensive wellness training, preparing them to support campus-wide health and wellness initiatives. Students can receive academic credit for their work with the Wellness Resource Center. A limited number of paid positions are available to students who successfully complete SBS 2304 HEART Peer Educator Training (3 s.h.).
Schools, Colleges, and Divisions

Tyler School of Art (p. 31)
  Division of Architecture and Environmental Design (p. 52)

Center for the Performing and Cinematic Arts
  Boyer College of Music and Dance (p. 63)
  School of Theater, Film and Media Arts (p. 283)

Fox School of Business and Management (p. 304)

Kornberg School of Dentistry (p. 371)

College of Education (p. 374)

College of Engineering (p. 488)

Beasley School of Law (p. 528)

College of Liberal Arts (p. 529)

Lew Klein College of Media and Communication (p. 612)

Lewis Katz School of Medicine (p. 625)

School of Pharmacy (p. 638)

College of Public Health (p. 660)
  School of Social Work (p. 734)

College of Science and Technology (p. 740)

School of Sport, Tourism and Hospitality Management (p. 796)
Tyler School of Art

Tyler School of Art has a preeminent reputation among institutions of higher education chiefly as a result of the collective record of achievement produced by its graduates. Tyler graduate programs are intended for students whose work has achieved strong definition and who seek continued growth and education in their discipline. Internationally recognized graduate faculty bring a reputation for excellence in academic research, studio practice, and teaching with a broad range of attitudes and philosophic positions. The educational atmosphere at Tyler is characterized by a system of mentorship that encourages diversity, respect for individual direction, and a rigorous exchange of ideas and creative challenges.

The philosophy on which Tyler School of Art was founded has contributed to the school's success. Since 1935, Tyler has grown from a small art school in suburban Elkins Park, PA, to encompass a wide range of programs on the Main Campus of Temple University. Stella Elkins Tyler, the donor of the estate on which the art school was founded, had a keen interest in progressive education and a deep appreciation of her mentor: Boris Blai, sculptor, who was appointed the founding dean of the school. It was her expressed wish that the estate become an environment for the advancement of the fine arts, scholarly study in the arts, and individual creativity.

In December 2015, Tyler School of Art became home to the Departments of Community and Regional Planning (now the Department of Planning and Community Development) and of Landscape Architecture and Horticulture, which previously resided in the School of Environmental Design. These two departments, along with Tyler’s Department of Architecture, now form the Division of Architecture and Environmental Design. For more information on the Division, including the programs offered therein, visit http://bulletin.temple.edu/graduate/scd/tyler-div/.

Today, Tyler School of Art constitutes a major facet in a comprehensive set of arts programs at Temple University. Tyler School of Art educates, motivates, and inspires individuals who enter society as artists, architects, art historians, designers, and educators with the highest aspirations for achievement, producing innovative work that is publicly presented and critically considered. The school’s location in the Northeast Corridor not only makes the extensive art collections and institutions of Philadelphia, New York City, and Washington, D.C. easily accessible, but also allows for opportunities to complement Tyler’s faculty with an extensive program of visiting artists, critics, and scholars drawn from these cultural centers.

A Tyler education distinguishes its students as individuals who are well prepared for the unprecedented opportunities available today in the fields of architecture, art, and design.

Programs

Degree Programs and Certificates

- Art Education, M.Ed. (p. 33)
- Art History, M.A. (p. 34)
- Art History, Ph.D. (p. 36)
- Ceramics/Glass, M.F.A. (p. 38)
- Fibers and Materials Studies, M.F.A. (p. 40)
- Graphic and Interactive Design, M.F.A. (p. 41)
- Illustration, M.F.A. (p. 43)
- Metals/Jewelry/CAD-CAM, M.F.A. (p. 43)
- Painting, M.F.A. (p. 44)
- Photography, M.F.A. (p. 46)
- Printmaking, M.F.A. (p. 47)
- Sculpture, M.F.A. (p. 49)
- Graduate Certificate: Arts in Community (p. 50)

Division of Architecture and Environmental Design (p. 52)

- Architecture, M.Arch.
- City and Regional Planning, M.S.
- Landscape Architecture, M.L.Arch.
- Graduate Certificate: Sustainable Community Planning
- Graduate Certificate: Transportation Planning

Graduate Faculty

Mariola Alvarez, Assistant Professor, Department of Art History, Tyler School of Art; Ph.D., University of California.

Gerard F. Brown, Assistant Professor, Department of Foundations, Tyler School of Art; M.A., School of the Art Institute of Chicago.

Susan E. Cahan, Professor, Department of Art History, Tyler School of Art; Ph.D., Graduate Center, City University of New York.

Tracy E. Cooper, Professor, Department of Art History, Tyler School of Art; Ph.D., Princeton University.

Chad D. Curtis, Associate Professor, Department of Crafts, Tyler School of Art; M.F.A., Alfred University, New York State College of Ceramics.

Sasha Eisenman, Associate Professor, Department of Landscape Architecture and Horticulture, Tyler School of Art; Ph.D., Rutgers University.

Amze J. Emmons, Associate Professor, Department of Graphic Arts and Design, Tyler School of Art; M.F.A., University of Washington.

Seher Erdogan Ford, Assistant Professor, Department of Architecture, Tyler School of Art; M.Arch., Yale University.

Jane DeRose Evans, Professor, Department of Art History, Tyler School of Art; Ph.D., University of Pennsylvania.

Clifton R. Fordham, Assistant Professor, Department of Architecture, Tyler School of Art; M.Arch., Yale University.

Mark T. Gibson, Assistant Professor, Department of Art History, Tyler School of Art; M.F.A., Yale University.

Philip Glahn, Associate Professor, Department of Painting, Drawing and Sculpture, Tyler School of Art; Ph.D., City University of New York.

Abby Ryan Guido, Assistant Professor, Department of Graphic Arts and Design, Tyler School of Art; M.B.A., Temple University.

Marcia B. Hall, Professor, Department of Art History, Tyler School of Art; Ph.D., Harvard University.

Sally W. Harrison, Professor, Department of Architecture, Tyler School of Art; M.Arch., Massachusetts Institute of Technology.

Jesse Harrod, Assistant Professor, Department of Crafts, Tyler School of Art; M.F.A., School of the Art Institute of Chicago.
David Herman Jr., Assistant Professor, Department of Art Education and Community Arts Practices, Tyler School of Art; Ph.D., University of North Texas.

Kelly A. Holohan, Professor, Department of Graphic Arts and Design, Tyler School of Art; M.F.A., Temple University.

Richard D. Hricko, Professor, Department of Graphic Arts and Design, Tyler School of Art; M.F.A., University of Iowa.

Pauline Hurley-Kurtz, Associate Professor, Department of Landscape Architecture and Horticulture, Tyler School of Art; M.L.A., University of Pennsylvania.

Renee E. Jackson, Assistant Professor, Department of Art Education and Community Arts Practices, Tyler School of Art; Ph.D., Concordia University.

Gabriel Kaprielian, Assistant Professor, Department of Architecture, Tyler School of Art; M.Arch., University of California Berkeley.

Lisa Kay, Assistant Professor, Department of Art Education and Community Arts Practices, Tyler School of Art; Ed.D., Northern Illinois University.

Nichola Kinch, Associate Professor, Department of Foundations, Tyler School of Art; M.F.A., Temple University.

Stephanie A. Knopp, Professor, Department of Graphic Arts and Design, Tyler School of Art; M.F.A., The Pennsylvania State University.

Robert T. Kuper, Associate Professor, Department of Landscape Architecture and Horticulture, Tyler School of Art; M.L.A., Auburn University.

Baldev S. Lamba, Associate Professor, Department of Landscape Architecture and Horticulture, Tyler School of Art; M.L.A., University of Pennsylvania.

Scott R. Laserow, Professor, Department of Graphic Arts and Design, Tyler School of Art; B.F.A., Temple University.

Roberto Lugo, Assistant Professor, Department of Crafts, Tyler School of Art; M.F.A., The Pennsylvania State University.

Dermot MacCormack, Associate Professor, Department of Graphic Arts and Design, Tyler School of Art; B.F.A., National College of Art and Design, Dublin.

Martha Madigan, Professor, Department of Graphic Arts and Design, Tyler School of Art; M.F.A., School of the Art Institute of Chicago.

Lynn A. Mandarano, Associate Professor, Department of Planning and Community Development, Tyler School of Art; Ph.D., University of Pennsylvania.

Pablo Meninato, Associate Professor, Department of Architecture, Tyler School of Art; Ph.D., Universidade Federal do Rio Grande do Sul.

Rebecca Michaels, Associate Professor (Teaching/Instructional), Department of Graphic Arts and Design, Tyler School of Art; M.F.A., Temple University.

Leah Modigliani, Assistant Professor, Department of Foundations, Tyler School of Art; Ph.D., Stony Brook University.

Susan M. Moore, Professor, Department of Painting, Drawing and Sculpture, Tyler School of Art; M.F.A., University of California Davis.

Dona R. Nelson, Professor, Department of Painting, Drawing and Sculpture, Tyler School of Art; B.F.A., The Ohio State University.

Emily Neumeier, Assistant Professor, Department of Art History, Tyler School of Art; Ph.D., University of Pennsylvania.

Rashida Ng, Associate Professor, Department of Architecture, Tyler School of Art; M.Arch., University of Pennsylvania.

Sharyn A. O'Mara, Associate Professor, Department of Crafts, Tyler School of Art; M.F.A., Rhode Island School of Design.

Odili Donald Odita, Associate Professor, Department of Painting, Drawing and Sculpture, Tyler School of Art; M.F.A., Cranbrook Academy of Art.

Karyn Olivier, Associate Professor, Department of Painting, Drawing and Sculpture, Tyler School of Art; M.F.A., Bennington College.

Michael Olszewski, Associate Professor, Department of Landscape Architecture and Horticulture, Tyler School of Art; Ph.D., University of Delaware.

Pepón Osorio, Professor, Department of Art Education and Community Arts Practices, Tyler School of Art; M.A., Columbia University.

Erin Pauwels, Assistant Professor, Department of Art History, Tyler School of Art; Ph.D., Indiana University, Bloomington.

Bryan Martin Satalino, Assistant Professor (Teaching/Instructional), Department of Graphic Arts and Design, Tyler School of Art; M.F.A., Temple University.

Paul E. Sheriff, Professor, Department of Graphic Arts and Design, Tyler School of Art; B.F.A., Temple University.

Mark Shetabi, Associate Professor, Department of Painting, Drawing and Sculpture, Tyler School of Art; M.F.A., Pennsylvania Academy of the Fine Arts.

Robert Z. Shuman Jr., Associate Professor, Department of Architecture, Tyler School of Art; B.Arch., Temple University.

Gerald D. Silk, Professor, Department of Art History, Tyler School of Art; Ph.D., University of Virginia.

Samantha Simpson, Associate Professor, Department of Foundations, Tyler School of Art; M.F.A., San Francisco Art Institute.

Hester Stinnett, Professor, Department of Graphic Arts and Design, Tyler School of Art; M.F.A., Temple University.

Kim D. Strommen, Professor, Department of Graphic Arts and Design, Tyler School of Art; M.F.A., Washington University.

Lolly Tai, Professor, Department of Landscape Architecture and Horticulture, Tyler School of Art; Ph.D., Heriot-Watt University, Edinburgh College of Art.

Christian Tomaszewski, Assistant Professor (Teaching/Instructional), Department of Painting, Drawing and Sculpture, Tyler School of Art; M.F.A., Academy of Fine Arts in Poznan, Poland.
Admission Requirements and Deadlines

Application Deadline:
Fall: January 6
Spring: November 1

All applications are evaluated together after deadline date.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty, art teachers or supervisors, and curators or gallery directors familiar with the applicant’s academic and artistic competence. The letters should be submitted with the application at https://apply.temple.edu/Tyler/, along with the statement of goals and resume.

Coursework Required for Admission Consideration: Applicants must have an undergraduate degree, 40 undergraduate studio credits, and 9 art history credits.

Bachelor’s Degree in Discipline/Related Discipline: A degree in Art or Art Education is required. Official transcripts from all universities/colleges attended, whether or not a degree was awarded, must be sent to the Tyler School of Art, Graduate Admissions Office, 2001 N. 13th Street, Philadelphia, PA 19122-6016.

Statement of Goals: Approximately 500 to 1,000 words include your interest in Temple’s program in particular, your future career goals, and your academic and artistic endeavors and achievements.

Standardized Test Scores:
GRE/MAT: Required, with scores in the 50th percentile or higher on the verbal and/or analytical sections. Students with concerns about scores should contact the Chair of the Art Education and Community Arts Practices Department.

TOEFL: 79 iBT or 550 PBT minimum

IELTS: 6.5 minimum

Portfolio: Applicants must submit a portfolio that consists of 20 images representative of their range of experience and the immediate direction of their work. Include a variety of drawings. Portfolios are to be uploaded at https://temple.slideroom.com, as instructed at the website. SlideRoom requires an additional fee for this service. Original work, slides, CD-ROMs, catalogs, photographs, books, and/or binders are not acceptable substitutes for the SlideRoom portfolio and will not be reviewed or returned.

Resume: Current resume required.

Transfer Credit: Upon approval of the Art Education Program Director, the student’s advisor, and the Associate Dean, up to 9 credits of graduate work completed at Temple University within a five-year period may be transferred into the program. Up to 6 credits of graduate coursework taken at other accredited institutions within the prior five years before matriculation may be considered for transfer into the program after the student has enrolled. No decisions are made until a student has successfully completed 15 matriculated credits at Tyler. The maximum number of credits a student may transfer is 9.

About the Program

The Master of Education with a Major in Art is designed for the practicing art teacher or supervisor of elementary or secondary art, as well as the individual with an undergraduate art background seeking professional preparation to teach art. This program encourages development as a creative artist/teacher with a breadth of study through and about art, along with specialized research demonstrating awareness of significant issues in art education.

Time Limit for Degree Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Ranking: Tyler School of Art has been ranked as one of the top 10 art schools in the country by U.S. News & World Report, Graduate School edition.

Accreditation: This degree program is accredited by the National Association of Schools of Art and Design.

Areas of Specialization: Students are encouraged to engage in in-depth study of a studio area: Crafts, Graphic Arts and Design, or Painting/Drawing/Sculpture.

Job Prospects: The program is primarily dedicated to producing well-trained art teachers.

Licensure: The M.Ed. with Teaching Certification Program of 48 credits, along with successful completion of the state-required PRAXIS and Art Education Examinations, fulfills all of the requirements for Pennsylvania State Certification in Art for kindergarten through twelfth grade. Pennsylvania Teaching Certification is awarded to U.S. citizens only.

Non-Matriculated Student Policy: Only certain courses are available to non-matriculated graduate students.

Financing Opportunities: The principal duties of Teaching Assistants (TA) or Academic Interns (AI) include assisting faculty members in preparing apparatus or materials for demonstrations and maintenance and/or monitoring of studio and exhibition areas and equipment.

Art Education, M.Ed.

TYLER SCHOOL OF ART (http://tyler.temple.edu/#/prospective)

Ashley West, Assistant Professor, Department of Art History, Tyler School of Art; Ph.D., University of Pennsylvania.

M. Katherine Wingert-Playdon, Professor, Department of Architecture, Tyler School of Art; M.S., The Pennsylvania State University.

Andrew Wit, Assistant Professor, Department of Architecture, Tyler School of Art; M.Arch., Massachusetts Institute of Technology.

Byron Wolfe, Associate Professor, Department of Graphic Arts and Design, Tyler School of Art; M.F.A., Arizona State University.

William Yalowitz, Associate Professor, Department of Art Education and Community Arts Practices, Tyler School of Art; Ed.D., Temple University.
Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 33, or 48 with Teaching Certification

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTE 8001</td>
<td>Contemporary Issues in Art Education</td>
<td>3</td>
</tr>
<tr>
<td>ARTE 8002</td>
<td>History of Art Education</td>
<td>3</td>
</tr>
<tr>
<td>ARTE 8003</td>
<td>Art Education Research</td>
<td>3</td>
</tr>
<tr>
<td>One additional course</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Art History Component</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select two courses from a range of graduate offerings (courses 5000-5580 or 8000-8570)</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td><strong>Studio Art Component</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select five studio courses</td>
<td></td>
<td>15</td>
</tr>
<tr>
<td><strong>Total Credit Hours</strong></td>
<td></td>
<td>33</td>
</tr>
</tbody>
</table>

1. One additional course can be taken in Art Education, Education, or any of the Liberal Arts programs offered by the University, provided it complements a particular research interest and receives prior advisor approval.

2. Select five courses from Tyler’s extensive studio course listing. Since in-depth studies are encouraged, students may take as many as three courses (9 credits) in one studio area. Courses are available in Crafts, Graphic Arts and Design, and Painting/Drawing/Sculpture.

Teaching Certification

M.Ed. candidates may pursue Teaching Certification concurrently with their graduate studies. An additional 15 credits of coursework is required in Art Education and Educational Psychology coursework:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTE 5003</td>
<td>Special Needs K-12 Students in the Art Room</td>
<td>3</td>
</tr>
<tr>
<td>ARTE 5888</td>
<td>Student Teaching</td>
<td>3</td>
</tr>
<tr>
<td>ARTE 9187</td>
<td>Graduate Materials and Methods in Art</td>
<td>3</td>
</tr>
<tr>
<td>EPSY 5531</td>
<td>Learning Theories and Education</td>
<td>3</td>
</tr>
<tr>
<td>or EPSY 5523</td>
<td>Introduction to Educational Psychology</td>
<td></td>
</tr>
<tr>
<td>EPSY 5541</td>
<td>Concepts in Human Development</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Credit Hours</strong></td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

The M.Ed. with Teaching Certification program of 48 credits, along with successful completion of the Praxis Fundamental Subjects: Content Knowledge exam and Praxis Art; Content Knowledge exam, provides all of the requirements for Pennsylvania State Certification in Art for Kindergarten through twelfth grade.

Internship: An internship is required if seeking Teaching Certification.

Culminating Events:

Artwork Review:
At the end of the final term’s residence, the student is required to pass a graduate review of artwork conducted by a committee of Art Education and Studio Art faculty.

Thesis:
The thesis for M.Ed. students is a scholarly master's paper (ARTE 9991) developed through research under the guidance of an advisor. The paper stands in lieu of a comprehensive examination.

Contacts

Program Web Address:
http://tyler.temple.edu/programs/art-education

Department Information:
Tyler School of Art
Graduate Admissions Office
2001 N. 13th Street
Philadelphia, PA 19122-6016
tylerart@temple.edu
215-777-9090

Mailing Address for Official Transcripts:
Tyler School of Art
Graduate Admissions Office
2001 N. 13th Street
Philadelphia, PA 19122-6016

Submission Address for Portfolio:
https://temple.slideroom.com/

Submission Address for All Other Application Materials:
https://apply.temple.edu/Tyler/

Department Contacts:
Graduate Program Director:
Dr. Renee Jackson
renee.jackson@temple.edu
215-777-9258

Department Chairperson - Art Education and Community Arts Practices:
Dr. Lisa Kay
lisa.kay@temple.edu
215-777-9264

Art History, M.A.

TYLER SCHOOL OF ART (http://tyler.temple.edu/#/prospective)

About the Program

The Art History Department offers courses of study leading to the Master of Arts and the Doctor of Philosophy degrees. The M.A. is intended to provide breadth and thoroughness in the study of Art History, either as preparation for future graduate study or as the foundation for careers in related areas.

Time Limit for Degree Completion: 3 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.
Interdisciplinary Study: The Fine Arts Administration Track promotes interdisciplinary study as students take courses in Art History and in business through the Fox School of Business and Management. Study Abroad: Students researching Italian topics may be eligible for a fellowship to study in Rome. Doctoral students have priority. In addition, opportunities for study and excavating abroad are offered in the summer. Accreditation: This degree program is accredited by the National Association of Schools of Art and Design. Areas of Specialization: The curriculum includes courses in all periods and phases of Western art history, as well as special concentrations in Aegean, Greek, and Roman art; Latin American art; Modern and Contemporary American and European art; Northern Renaissance and Northern Baroque art; Renaissance and Baroque painting, sculpture, and architecture; and the History of Prints. It also introduces a wide variety of critical methods and approaches. Job Prospects: The program is intended to provide breadth and thoroughness in the study of Art History as preparation for future graduate study or as the foundation for careers in related areas. Non-Matriculated Student Policy: Non-matriculated students must contact the Art History Department for information. Financing Opportunities: Teaching Assistantships are offered, but are ordinarily reserved for doctoral students. They carry a stipend and full tuition remission for up to 9 credits per term. Applications should include a statement of previous teaching and/or research experience, areas of interest and future goals, unofficial transcripts, and curriculum vitae. Applicants interested in being considered for a Teaching Assistantship must submit their application by January 15. Eligible graduate students are encouraged to apply for work study. Work-study grants may be used to assist in the image-digitizing project and other slide room activities. Admission Requirements and Deadlines

Application Deadline:

Fall: December 15
Spring: November 1

Applications are reviewed in March and November, or as they are received after the deadline dates. Students wishing to be considered for fellowships and teaching assistantships must apply by December 15.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members, gallery directors, and/or curators familiar with the applicant's academic and artistic competence. The letters should be submitted with the application at https://apply.temple.edu/Tyler/, along with the statement of goals, resume, and writing sample.

Coursework Required for Admission Consideration: Five courses in Art History are required for admissions consideration: two surveys and one upper-level course in each of three areas to include Ancient or Medieval art; Renaissance or Baroque art; and Modern and Contemporary American and European art. Strong applicants to the program who meet the prerequisites, except in the number of courses, may be admitted conditionally. These students are permitted to enroll in a maximum of four undergraduate courses to complete the required prerequisites. A direct track to the Ph.D. in Art History is also offered for exceptionally well-qualified applicants. See the Art History, Ph.D. (p. 36) page for more information.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree is required, but it need not be in Art History. Official transcripts from all universities/colleges attended, whether or not a degree was awarded, must be sent to the Tyler School of Art, Graduate Admissions Office, 2001 N. 13th Street, Philadelphia, PA 19122-6016.

Statement of Goals: Approximately 500 to 1,000 words include your interest in Temple’s program, your research goals, your future career goals, and your academic and research achievements. Submit at https://apply.temple.edu/Tyler/ along with letters of reference, resume, and writing sample.

Standardized Test Scores:
GRE: Required. Scores are typically in the 75-99% range, particularly on the verbal section.

TOEFL: 79 iBT or 550 PBT minimum
IELTS: 6.5 minimum


Writing Sample: The writing sample should demonstrate your ability to research and write a scholarly paper on a topic in Art History. The paper should be no more than 10 pages in length and fully referenced according to a professional, scholarly style manual. Submit at https://apply.temple.edu/Tyler/ along with the letters of reference, statement of goals, and resume.

Transfer Credit: The Graduate School allows the transfer of a maximum of 6 credits taken within a five-year period before matriculation for credit toward the master’s degree. These credits must be in Art History, at the graduate level, with at least a final grade of B, and must not have been used as part of the fulfillment of requirements for another degree awarded to the student.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30 for the Thesis Track; 36 for the Fine Arts Administration Track

Required Courses:

Thesis Track

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td>Art History courses</td>
<td></td>
<td>21</td>
</tr>
<tr>
<td>With permission, 9 credits may be taken outside of the Art History Department</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td></td>
<td>30</td>
</tr>
</tbody>
</table>
Fine Arts Administration Track

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art History courses</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Fox School of Business and Management courses</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Additional credits in either Art History or in Fox School of Business and Management coursework</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Internship</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td></td>
<td>36</td>
</tr>
</tbody>
</table>

**Language Examination:** Students must demonstrate a reading knowledge of two foreign languages: German and either French, Italian, Spanish, or another relevant language. This requirement is applicable for both the Thesis and the Fine Arts Administration Tracks.

**Culminating Events:**

**Comprehensive Examination:**
The comprehensive examination is a slide examination covering all of Western art. It is usually taken in the third term of study. The exam is applicable for both the Thesis and the Fine Arts Administration Tracks.

**Thesis:**
Students in the Thesis Track need to write a master's thesis, a document detailing independent research that demonstrates the student's mastery of her/his primary area of interest.

**Internship:**
The internship constitutes the culminating event for students completing the Fine Arts Administration Track. Following the completion of all course requirements, students complete an internship for which six credits are granted.

**Contacts**

**Program Web Address:**
http://tyler.temple.edu/programs/art-history

**Admissions Information:**
Tyler School of Art
Graduate Admissions Office
2001 N. 13th Street
Philadelphia, PA 19122-6016
tylerart@temple.edu
215-777-9090

**Mailing Address for Official Transcripts:**
Tyler School of Art
Graduate Admissions Office
2001 N. 13th Street
Philadelphia, PA 19122-6016

**Submission Address for All Other Application Materials:**
https://apply.temple.edu/Tyler/

**Department Contacts:**

*M.A. Program Director:*
Ashley West
ashley.west@temple.edu

**Art History, Ph.D.**

TYLER SCHOOL OF ART (http://tyler.temple.edu/#/prospective)

**About the Program**
The Art History Department offers courses of study leading to the Master of Arts and the Doctor of Philosophy degrees. The Ph.D. is intended to prepare students for college teaching or other research-oriented positions.

**Time Limit for Degree Completion:** 7 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The degree program can be completed on a full- or part-time basis.

**Study Abroad:** Students researching Italian topics may be eligible for a fellowship to study in Rome. Doctoral students have priority. In addition, opportunities for study and excavating abroad are offered in the summer.

**Ranking:** In its evaluation of Art History doctoral programs by Academic Analytics, the Art History Department at Tyler School of Art was ranked out of 62 national Ph.D. programs as follows: 12th in 2006-07, 2nd in 2007-08, and 15th in 2008-09. Academic Analytics uses the Faculty Scholarly Productivity Index™ (FSP Index) and the Faculty Scholarly Productivity Database (FSP Database) to rank doctoral programs at Research Universities. It measures the scholarly productivity of faculty using their book and journal publications, journal article citations, federally funded research grants, and honorific awards. Because all Ph.D. programs are included in the database, Academic Analytics also establishes faculty productivity benchmarks based on national standards within the particular discipline.

**Accreditation:** This degree program is accredited by the National Association of Schools of Art and Design.

**Areas of Specialization:** The curriculum includes courses in all periods and phases of Western art history, as well as special concentrations in Aegean, Greek, and Roman art; Latin American art; Modern and Contemporary American and European art; Northern Renaissance and Northern Baroque art; Renaissance and Baroque painting, sculpture, and architecture; and the History of Prints. It also introduces a wide variety of critical methods and approaches.

**Job Prospects:** The program is intended to provide breadth and thoroughness in the study of Art History as preparation for a career in college teaching, research, or a related area.

**Non-Matriculated Student Policy:** Non-matriculated students must contact the Art History Department for information.

**Financing Opportunities:** Exceptionally qualified students who apply for the Ph.D. may be nominated for prestigious Presidential, University, and Future Faculty Fellowships. The department also offers some Teaching
Admission Requirements and Deadlines

Application Deadline:

Fall: December 15
Spring: November 1

The Department of Art History offers a doctoral program for students with an M.A. degree, as well as for exceptionally well-prepared students with a B.A., who may be admitted directly without first earning a master's degree. A strong art history background, appropriate languages, and indicators of high achievement are requisites for students with a B.A. only. Applicants should declare an intention to enter this program.

Applications are processed as they are received throughout the year. Most applications are received before the deadline dates. Students wishing to be considered for fellowships and teaching assistantships must apply by December 15.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members, gallery directors, and/or curators familiar with the applicant’s academic and art historical competence. The letters should be submitted with the application at https://apply.temple.edu/Tyler/, along with the statement of goals, resume, and writing sample.

Coursework Required for Admission Consideration: Five courses in Art History are required for admissions consideration: two surveys and one upper-level course in each of three areas to include Ancient or Medieval art; Renaissance or Baroque art; and Modern and Contemporary American and European art. Strong applicants to the program who meet the prerequisites, except in the number of courses, may be admitted conditionally. These students are permitted to enroll in a maximum of four undergraduate courses to complete the required prerequisites. Official transcripts from all universities/colleges attended, whether or not a degree was awarded and whether the courses were taken as an undergraduate or a graduate student, must be sent to the Tyler School of Art, Graduate Admissions Office, 2001 N. 13th Street, Philadelphia, PA 19122-6016.

Master’s Degree in the Discipline/Related Discipline: A baccalaureate degree is required, but it need not be in Art History.

Bachelor’s Degree in the Discipline/Related Discipline: A baccalaureate degree is required, but it need not be in Art History.

Statement of Goals: Approximately 500 to 1,000 words include your interest in Temple’s program, your research goals, your future career goals, and your academic and research achievements. Submit at https://apply.temple.edu/Tyler/ along with letters of reference, resume, and writing sample.

Standardized Test Scores:
GRE: Required. Scores are typically in the 75-99% range on the verbal and analytical sections.
TOEFL: 100 iBT or 600 PBT minimum
IELTS: 7.5 minimum


Writing Sample: The writing sample should demonstrate your ability to research and write a scholarly paper on a topic in Art History. The paper should be no more than 10 pages in length and fully referenced according to a professional, scholarly style manual. Submit at https://apply.temple.edu/Tyler/ along with the letters of reference, statement of goals, and resume.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Master’s: 30
Number of Credits Required Beyond the Bachelor’s: 60

Required Courses:
The program requires 60 graduate-level credits in Art History beyond the B.A. degree. Up to 9 credits can be taken in graduate courses outside the department if the coursework is relevant to the student’s field and approved by the student’s advisor. Up to 6 credits may be taken in directed research, and 6 credits are required in writing the dissertation.

Language Examination: Students must demonstrate a reading knowledge of two foreign languages: German and either French or Italian. With permission of the Director of Graduate Studies, the student may substitute another language appropriate to her/his field.

Culminating Events:
Qualifying Paper:
The qualifying paper is required of those entering the program with a bachelor’s degree. At the end of the third term of coursework, such students are required to submit a long paper to demonstrate their command of scholarly research and writing. This is done in lieu of a master’s thesis. The ability to continue in the Ph.D. program is contingent on the quality of this paper. If the qualifying paper is not deemed acceptable, the student is transferred to the M.A. program.

Dissertation:
The Doctoral Advisory Committee is formed to oversee the student’s doctoral research and is comprised of at least three Graduate Faculty members. Two members, including the Chair, must be from the Art History Department. The composition of the Doctoral Advisory Committee must be approved by the department’s Graduate Committee. The Chair is responsible for overseeing and guiding the student’s progress,
coordinating the responses of the committee members, and informing the student of her/his academic progress.

The Dissertation Examining Committee evaluates the student’s dissertation and oral defense. This committee is comprised of the Doctoral Advisory Committee and at least one additional Graduate Faculty member from outside the Art History Department. The Outside Examiner should be identified no later than the beginning of the term in which the student will defend the dissertation.

If a student needs to change a member of a committee, the new member must be approved by the department’s Graduate Committee and registered with the Graduate Secretary and the Graduate School.

Students who are preparing to defend their dissertation should confirm a time and date with their Doctoral Advisory Committee and register with the designated person/office at least 15 days before the defense is to be scheduled. After the department has arranged the time, date, and room for the defense, the student must send the Graduate School a completed “Announcement of Dissertation Defense” form, found in TUportal under the Tools tab within “University Forms,” at least 10 working days before the defense. The department posts flyers announcing the defense.

Contacts

Program Web Address:

http://tyler.temple.edu/programs/art-history

Admissions Information:

Tyler School of Art
Graduate Admissions Office
2001 N. 13th Street
Philadelphia, PA 19122-6016
tylerart@temple.edu
215-777-9090

Mailing Address for Official Transcripts:

Tyler School of Art
Graduate Admissions Office
2001 N. 13th Street
Philadelphia, PA 19122-6016

Submission Address for All Other Application Materials:

https://apply.temple.edu/Tyler/

Department Contacts:

Director of Graduate Studies:
Marcia Hall
marciarahall@verizon.net
215-777-9736

Department Chairperson:
Jane DeRose Evans
jevans@temple.edu
215-777-9090

Ceramics/Glass, M.F.A.

TYLER SCHOOL OF ART (http://tyler.temple.edu/#/prospective)

About the Program

The graduate program in Ceramics/Glass is a two-year, 60-credit program leading to the Master of Fine Arts degree. The program usually accommodates four to six people studying ceramics and two to four individuals in glass. Our nationally recognized faculty, who bring to the program a reputation for excellence in teaching with a wide range of attitudes and philosophical positions, are complemented by an extensive schedule of visiting artists and critics. Students can also draw from the cultural resources of Philadelphia and the nearby art centers of New York and Washington, DC.

Time Limit for Degree Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: Full-time status is required.

Interdisciplinary Study: The focus in Ceramics or Glass is augmented and balanced by specially designed graduate-level Art History courses and seminars; a required interdisciplinary seminar; and studio electives that ensure cross-disciplinary contact among students.

Affiliation(s): Tyler’s Ceramics/Glass faculty are members of the Advisory Board of the Clay Studio, the American Crafts Council, the Glass Arts Society, the National Council on Education in the Ceramic Arts, and the Philadelphia Ceramic Consortium. These associations enhance the curriculum by providing an extensive program of visiting artists, workshops, and guest lecturers.

Study Abroad: The Crafts area participates in faculty and student exchange programs with the Glasgow School of Art in Scotland.

Accreditation: This degree program is accredited by the National Association of Schools of Art and Design.

Areas of Specialization: In the Ceramics area, equipment is available for wheel work, mold making, and slip casting projects. Large kilns are also available for hand building and sculpture. The Glass studios are designed for the creation of works in all areas of glass blowing, glass casting, glass fusing, and kiln work. Students are expected to demonstrate both conceptual and technical excellence in a given area, as well as a profound interest in research and experimentation.

Job Prospects: The M.F.A. program prepares graduates for careers as professional artists, craftspersons, designers, and educators.

Non-Matriculated Student Policy: M.F.A. courses are restricted to matriculated students.

Financing Opportunities: The principal duties of a Teaching Assistant (TA) or Academic Intern (AI) include assisting faculty members in preparing apparatus or materials for demonstrations and maintenance and/or monitoring of studio and exhibition areas and equipment.

Admission Requirements and Deadlines

Application Deadline:

Fall: January 6

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members, gallery directors, and/or curators familiar with the applicant's academic and artistic competence. The letters should be submitted with the application at https://apply.temple.edu/Tyler/, along with the statement of goals and resume.

Coursework Required for Admission Consideration: 40 undergraduate studio credits and 12 art history credits are required.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree and portfolio in Ceramics or Glass are required. Official transcripts from all universities/colleges attended, whether or not a degree was awarded, must be sent to the Tyler School of Art, Graduate Admissions Office, 2001 N. 13th Street, Philadelphia, PA 19122-6016.

Statement of Goals: Approximately 500 to 1,000 words include your interest in Tyler's program, your research goals, your future career goals, and your academic and artistic achievements.

Standardized Test Scores:
TOEFL: 79 iBT or 550 PBT minimum
IELTS: 6.5 minimum

Portfolio: As a Master of Fine Arts applicant, you must submit a portfolio that consists of 20 images representative of the immediate direction of your work. Portfolios are to be uploaded at https://temple.slideroom.com, as instructed at the website. SlideRoom requires an additional fee for this service. Original work, slides, CD-ROMs, catalogs, photographs, books, and/or binders are not acceptable substitutes for the SlideRoom portfolio and will not be reviewed or returned.

Resume: Current resume required.

Transfer Credit: Upon approval of the appropriate department chairperson and the Vice Dean, up to 9 credits of graduate work may be transferred into the M.F.A. program as Art History or Studio electives. Only credits received within five years of the transfer request are eligible. No decisions are made concerning transfer credits until students have successfully completed 15 matriculated credits at Tyler. The maximum number of credits a student may transfer is 9.

Program Requirements

General Program Requirements:
Number of Credits Required to Earn the Degree: 60

Required Courses:

Ceramics

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
</table>
| Project and Seminar Courses
| CRFT 8183/8184 Graduate Projects, Ceramics (4 terms) ¹ | 12           |
| CRFT 8201/8202 Graduate Seminar, Ceramics/Glass/Fibers (4 terms) ¹ | 12           |
| CRFT 9184  Graduate Thesis Exhibition: Clay (1 term) | 3            |
| CRFT 9295  Graduate Thesis Research: Ceramics and Glass (2 terms) | 6            |
| TYLE 8001  Graduate Professional Practices (1 term) | 3            |

<table>
<thead>
<tr>
<th>Studio Electives ³</th>
<th>12</th>
</tr>
</thead>
</table>

Total Credit Hours

1 Courses are sequenced to be taken in the Fall and Spring terms. The sequence is repeated a second year for a total of four courses taken over four terms.
2 Of the four required courses, two must be Art History Seminar classes chosen from a range of graduate offerings (5000 to 5800 or 8000 to 9980).
3 Course descriptions can be viewed on the Class Schedule (http://www.temple.edu/apply/common/cdcheck.asp). Please note that taking any course under the 5000 level for graduate credit requires prior approval from the studio area head.

Glass

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</table>
| Project and Seminar Courses
| CRFT 8201/8202 Graduate Seminar, Ceramics/Glass/Fibers (4 terms) ¹ | 12           |
| CRFT 8283/8284 Graduate Projects, Glass (4 terms) ¹ | 12           |
| CRFT 9284  Graduate Thesis Exhibition: Glass (1 term) | 3            |
| CRFT 9295  Graduate Thesis Research: Ceramics and Glass (2 terms) | 6            |
| TYLE 8001  Graduate Professional Practices (1 term) | 3            |

<table>
<thead>
<tr>
<th>Art History Courses ²</th>
<th>12</th>
</tr>
</thead>
</table>

Total Credit Hours

1 Courses are sequenced to be taken in the Fall and Spring terms. The sequence is repeated a second year for a total of four courses taken over four terms.
2 Of the four required courses, two must be Art History Seminar classes chosen from a range of graduate offerings (5000 to 5800 or 8000 to 9980).
3 Course descriptions can be viewed on the Class Schedule (http://www.temple.edu/apply/common/cdcheck.asp). Please note that taking any course under the 5000 level for graduate credit requires prior approval from the studio area head.

Culminating Events:

Thesis Exhibition:
An approved thesis exhibition, written statement of working philosophy, and slide and/or CD portfolio are required at the final review in order to meet the M.F.A. requirements. The thesis exhibition should be the fruit of the two years' studio research and practice in which the student engaged. The student defends her/his thesis exhibition to the review committee. The committee then evaluates the exhibition as pass with distinction, pass, or fail.

Contacts

Program Web Address:
http://tyler.temple.edu/programs/ceramics
http://tyler.temple.edu/programs/glass
Department Information:
Tyler School of Art
Graduate Admissions Office
2001 N. 13th Street
Philadelphia, PA 19122-6016
tylerart@temple.edu
215-777-9090

Mailing Address for Official Transcripts:
Tyler School of Art
Graduate Admissions Office
2001 N. 13th Street
Philadelphia, PA 19122-6016

Submission Address for Portfolio:
https://temple.slideroom.com/

Submission Address for All Other Application Materials:
https://apply.temple.edu/Tyler/

Department Contacts:
M.F.A. Program Director - Ceramics:
Chad D. Curtis
chad.curtis@temple.edu
215-777-9201

M.F.A. Program Director - Glass:
Sharyn O'Mara
sharyn.omara@temple.edu
215-777-9211

Crafts Department Chairperson:
Chad D. Curtis
chad.curtis@temple.edu
215-777-9201

Fibers and Materials Studies, M.F.A.

TYLER SCHOOL OF ART (http://www.temple.edu/tyler)

About the Program
The graduate program in Fibers and Materials Studies is a two-year, 60-credit program leading to the Master of Fine Arts degree. Our nationally recognized faculty, who bring to the program a reputation for excellence in teaching with a wide range of attitudes and philosophical positions, are complemented by an extensive schedule of visiting artists and critics. Students can also draw from the cultural resources of Philadelphia and the nearby art centers of New York and Washington, DC.

Time Limit for Degree Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: Full-time status is required.

Interdisciplinary Study: The focus in Fibers and Materials Studies is augmented and balanced by specially designed graduate-level Art History courses and seminars; a required interdisciplinary seminar; and studio electives that ensure cross-disciplinary contact among students.

Study Abroad: The Crafts area participates in faculty and student exchange programs with the Glasgow School of Art in Scotland.

Accreditation: This degree program is accredited by the National Association of Schools of Art and Design.

Areas of Specialization: In the Fibers area, equipment is available for traditional and contemporary techniques, including new technologies that allow the development of surface imagery with photographic stencils, as well as the creation of weave structures on a computer AVL loom. Students are encouraged to experiment with the materials, techniques, and concepts previously developed in their work.

Job Prospects: The M.F.A. program prepares graduates for careers as professional artists, craftspersons, designers, and educators.

Non-Matriculated Student Policy: M.F.A. courses are restricted to matriculated students.

Financing Opportunities: The principal duties of a Teaching Assistant (TA) or Academic Intern (AI) include assisting faculty members in preparing apparatus or materials for demonstrations and maintenance and/or monitoring of studio and exhibition areas and equipment.

Admission Requirements and Deadlines

Application Deadline:
Fall: January 6

All applications are evaluated together after the deadline date.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members, gallery directors, and/or curators familiar with the applicant's academic and artistic competence. The letters should be submitted with the application at https://apply.temple.edu/Tyler/, along with the statement of goals and resume.

Coursework Required for Admission Consideration: 40 undergraduate studio credits and 12 art history credits are required.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree and a portfolio specific to Fibers and Materials Studies are required. Official transcripts from all universities/colleges attended, whether or not a degree was awarded, must be sent to the Tyler School of Art, Graduate Admissions Office, 2001 N. 13th Street, Philadelphia, PA 19122-6016.

Statement of Goals: Approximately 500 to 1,000 words include your specific interest in Tyler's program, your research goals, your future career goals, and your academic and artistic achievements.

Standardized Test Scores:
TOEFL: 79 iBT or 550 PBT minimum
IELTS: 6.5 minimum

Portfolio: As a Master of Fine Arts applicant, you must submit a portfolio that consists of 20 images representative of the immediate direction of your work. Portfolios are to be uploaded at https://temple.slideroom.com, as instructed at the website. SlideRoom requires an additional fee for this
service. Original work, slides, CD-ROMs, catalogs, photographs, books, and/or binders are not acceptable substitutes for the SlideRoom portfolio and will not be reviewed or returned.

Resume: Current resume required.

Transfer Credit: Upon approval of the Department Coordinator, the student's advisor, and the Vice Dean, up to 9 credits of graduate work completed at Temple University within a five-year period may be transferred into the program. Up to 6 credits of graduate coursework taken at other accredited institutions within the prior five years before matriculation may be considered for transfer into the program after the student has enrolled. No decisions are made until students have successfully completed 15 matriculated credits at Tyler. The maximum number of credits a student may transfer is 9.

Program Requirements

General Program Requirements:
Total Number of Credits Required to Earn the Degree: 60

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project and Seminar Courses</td>
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<td></td>
</tr>
<tr>
<td>CRFT 8201/8202 Graduate Seminar, Ceramics/Glass/Fibers (4 terms)</td>
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<td>CRFT 8383/8384 Graduate Projects, Fibers (4 terms)</td>
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<td>CRFT 9395 Graduate Thesis Research: Fibers (2 terms)</td>
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<td>Art History Courses 2</td>
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<td>Studio Electives 3</td>
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</tr>
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</table>

Total Credit Hours: 60

1 Courses are sequenced to be taken in the Fall and Spring terms. The sequence is repeated a second year for a total of four courses taken over four terms.

2 Of the four required courses, two must be Art History Seminar classes chosen from a range of graduate offerings (5000 to 5800 or 8000 to 9980).

3 Course descriptions can be viewed on the Class Schedule (http://www.temple.edu/apply/common/cdcheck.asp). Please note that taking any course under the 5000 level for graduate credit requires prior approval from the studio area head.

Culminating Events:

Thesis Exhibition:
An approved thesis exhibition, written statement of working philosophy, and slide and/or CD portfolio are required at the final review in order to meet the M.F.A. requirements. The thesis exhibition should be the fruit of the two years' studio research and practice in which the student engaged. The student defends her/his thesis exhibition to the review committee. The committee then evaluates the exhibition as pass with distinction, pass, or fail.

Contacts

Program Web Address:
http://tyler.temple.edu/programs/fibers-material-studies

Department Information:

Tyler School of Art
Graduate Admissions Office
2001 N. 13th Street
Philadelphia, PA 19122-6016
tylerart@temple.edu
215-777-9090

Mailing Address for Official Transcripts:

Tyler School of Art
Graduate Admissions Office
2001 N. 13th Street
Philadelphia, PA 19122-6016

Submission Address for Portfolio:

https://temple.slideroom.com/

Submission Address for All Other Application Materials:

https://apply.temple.edu/Tyler/

Department Contacts:

M.F.A. Program Director:
Jesse Harrod
jesseharrod@gmail.com
215-777-9023

Crafts Department Chairperson:
Chad D. Curtis
chad.curtis@temple.edu
215-777-9201

Graphic and Interactive Design, M.F.A.

TYLER SCHOOL OF ART (http://tyler.temple.edu/#/prospective)

About the Program

The graduate program in Graphic and Interactive Design is a two-year, 60-credit program leading to the Master of Fine Arts degree. Authorship of large-scale design projects is central to the program. M.F.A. students create the content of their work in seminar and thesis classes. The execution of work in the M.F.A. program is expected to meet the exacting visual and technical demands of the graphic design profession.

Time Limit for Degree Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: Full-time status is required.

Interdisciplinary Study: The focus in Graphic and Interactive Design is augmented and balanced by specially designed graduate-level Art
History courses and seminars; a required interdisciplinary seminar; and studio electives that ensure cross-disciplinary contact among students.

**Accreditation:** This degree program is accredited by the National Association of Schools of Art and Design.

**Areas of Specialization:** The design faculty at Tyler is made up of practicing graphic and interactive designers with established reputations in the field. It is the goal of the design faculty to challenge students to achieve the highest level of excellence in their work.

**Job Prospects:** Graduates from the M.F.A. program have been extremely successful in the field. They work for print and web design companies, advertising agencies, publishing companies, and design departments of major corporations. They also work in film and television, music packaging and promotion, and product design and packaging, and as freelance illustrators.

**Non-Matriculated Student Policy:** M.F.A. courses are restricted to matriculated students.

**Financing Opportunities:** The principal duties of a Teaching Assistant (TA) include assisting faculty members in the classroom or laboratory: preparing apparatus, software, or material for demonstration; conducting tutorials and discussion sections; teaching classes; and monitoring and maintaining studio and computer facilities. In addition, an Academic Intern (AI) may assist in the Tyler Publications Office.

### Admission Requirements and Deadlines

**Application Deadline:**

- **Fall:** January 6
- Applications are evaluated together after the deadline date.

**APPLY ONLINE to this graduate program.**

**Letters of Reference:**

**Number Required:** 3

*From Whom:* Letters of recommendation should be obtained from college/university faculty members, art directors, and/or designers familiar with the applicant’s academic and artistic competence. The letters should be submitted with the application at https://apply.temple.edu/Tyler/, along with the statement of goals and resume.

**Coursework Required for Admission Consideration:** 40 undergraduate studio credits and 12 art history credits are required.

**Bachelor’s Degree in Discipline/Related Discipline:** A baccalaureate degree and a portfolio specific to Graphic and Interactive Design are required. Official transcripts from all universities/colleges attended, whether or not a degree was awarded, must be sent to the Tyler School of Art, Graduate Admissions Office, 2001 N. 13th Street, Philadelphia, PA 19122-6016.

**Statement of Goals:** Approximately 500 to 1,000 words include your interest in Tyler’s program, your research goals, your future career goals, and your academic and artistic achievements.

**Standardized Test Scores:**

- TOEFL: 79 iBT or 550 PBT minimum
- IELTS: 6.5 minimum

**Portfolio:** As a Master of Fine Arts applicant, you must submit a portfolio that consists of 20 images representative of the immediate direction of your work. Portfolios are to be uploaded at https://temple.slideroom.com, as instructed at the website. SlideRoom requires an additional fee for this service. Original work, slides, CD-ROMs, catalogs, photographs, books, and/or binders are not acceptable substitutes for the SlideRoom portfolio and will not be reviewed or returned.

**Resume:** Current resume required.

**Transfer Credit:** Upon approval of the Department Coordinator, the student’s advisor, and the Vice Dean, up to 9 credits of graduate work completed at Temple University within a five-year period may be transferred into the program. Up to 6 credits of graduate coursework taken at other accredited institutions within the prior five years before matriculation may be considered for transfer into the program after the student has enrolled. No decisions are made until students have successfully completed 15 matriculated credits at Tyler. The maximum number of credits a student may transfer is 9.

### Program Requirements

**General Program Requirements:**

**Number of Credits Required to Earn the Degree:** 60

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>GAD 8001/8002</td>
<td>Visual Design Graduate Seminar (4 terms)</td>
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<tr>
<td>GAD 8083</td>
<td>Graphic Design Graduate Projects (3 terms)</td>
<td>9</td>
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<tr>
<td>GAD 8095/8096</td>
<td>Visual Design Thesis (4 terms)</td>
<td>12</td>
</tr>
<tr>
<td>TYLE 8001</td>
<td>Graduate Professional Practices (1 term)</td>
<td>3</td>
</tr>
<tr>
<td>Art History Courses</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>Studio Electives</td>
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<td>12</td>
</tr>
<tr>
<td>Total Credit Hours</td>
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<td>60</td>
</tr>
</tbody>
</table>

1. Courses are sequenced to be taken in the Fall and Spring terms. The sequence is repeated a second year for a total of four courses taken over four terms.
2. Of the four required courses, two must be Art History Seminar classes chosen from a range of graduate offerings (5000 to 5800 or 8000 to 9980).
3. Course descriptions can be viewed on the Class Schedule (http://www.temple.edu/apply/common/cdcheck.asp). Please note that taking any course under the 5000 level for graduate credit requires prior approval from the studio area head.

**Culminating Events:**

*Thesis Exhibition with Slide Show:*

An approved thesis exhibition, written statement, and slide portfolio are required at the final review in order to meet M.F.A. requirements. Approval of the student’s graduate committee is required.

**Contacts**

**Program Web Address:**

http://tyler.temple.edu/programs/graphic-interactive-design
Schools, Colleges, and Divisions

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Department Information:
Tyler School of Art
Graduate Admissions Office
2001 N. 13th Street
Philadelphia, PA 19122-6016
tylerart@temple.edu
215-777-9090

Mailing Address for Official Transcripts:
Tyler School of Art
Graduate Admissions Office
2001 N. 13th Street
Philadelphia, PA 19122-6016

Submission Address for Portfolio:
https://temple.slideroom.com/

Submission Address for All Other Application Materials:
https://apply.temple.edu/Tyler/

Department Contacts:
M.F.A. Program Director:
Kelly Holohan
kholohan@temple.edu
215-777-9145

Department Chairperson:
Stephanie Knopp
stephanie.knopp@temple.edu
215-777-9145
215-777-9179

Illustration, M.F.A.
TYLER SCHOOL OF ART (http://tyler.temple.edu/#/prospective)

About the Program
This program is not accepting applications for the 2018-2019 academic year.

Metals/Jewelry/CAD-CAM, M.F.A.
TYLER SCHOOL OF ART (http://tyler.temple.edu/#/prospective)

About the Program
The graduate program in Metals/Jewelry/CAD-CAM is a two-year, 60-credit program leading to the Master of Fine Arts degree. The program targets four areas of endeavor: artistic development, preparation for college teaching, designing for industry, and developing entrepreneurial skills. Our nationally recognized faculty, who bring to the program a reputation for excellence in teaching with a wide range of attitudes and philosophic positions, are complemented by an extensive schedule of visiting artists and critics. Students can also draw from the cultural resources of Philadelphia and the nearby art centers of New York and Washington, DC.

Time Limit for Degree Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: Full-time status is required.

Interdisciplinary Study: The focus in Metals/Jewelry/CAD-CAM is augmented and balanced by specially designed graduate-level Art History courses and seminars; a required interdisciplinary seminar; and studio electives that ensure cross-disciplinary contact among students.

Study Abroad: The Metals/Jewelry/CAD-CAM area participates in faculty and student exchange programs with the Glasgow School of Art in Scotland.

Accreditation: This degree program is accredited by the National Association of Schools of Art and Design.

Areas of Specialization: Graduate students in the Metals/Jewelry/CAD-CAM area utilize traditional materials as well as the latest technologies and materials in the field. The faculty, all recognized professionals in the field, know that many graduate students expect to teach at the college level. Therefore, emphasis is placed on preparing graduates for a career in academia. This preparation includes introduction to CAD-CAM and other digital technologies such as webpage design and digital photography.

Job Prospects: The M.F.A. program prepares graduates for careers as professional artists, craftspersons, designers, and educators.

Non-Matriculated Student Policy: M.F.A. courses are restricted to matriculated students.

Financing Opportunities: The principal duties of a Teaching Assistant (TA) or Academic Intern (AI) include assisting faculty members in preparing apparatus or materials for demonstrations as well as maintenance and/or monitoring of studio and exhibition areas and equipment.

Admission Requirements and Deadlines

Application Deadline:
Fall: January 6

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members, gallery directors, and/or curators familiar with the applicant’s academic and artistic competence. The letters should be submitted with the application at https://apply.temple.edu/Tyler/, along with the statement of goals and resume.

Coursework Required for Admission Consideration: 40 undergraduate studio credits and 12 art history credits are required.

Bachelor’s Degree in Discipline/Related Discipline: A baccalaureate degree and a portfolio specific to Metals/Jewelry/CAD-CAM are required. Official transcripts from all universities/colleges attended, whether or not a degree was awarded, must be sent to the Tyler School of Art, Graduate Admissions Office, 2001 N. 13th Street, Philadelphia, PA 19122-6016.
Statement of Goals: Approximately 500 to 1,000 words include your interest in Tyler's program, your research goals, your future career goals, and your academic and artistic achievements.

Standardized Test Scores:
TOEFL: 79 iBT or 550 PBT minimum
IELTS: 6.5 minimum

Portfolio: As a Master of Fine Arts applicant, you must submit a portfolio that consists of 20 images representative of the immediate direction of your work. Portfolios are to be uploaded at https://temple.slideroom.com, as instructed at the website. SlideRoom requires an additional fee for this service. Original work, slides, CD-ROMs, catalogs, photographs, books, and/or binders are not acceptable substitutes for the SlideRoom portfolio and will not be reviewed or returned.

Resume: Current resume required.

Transfer Credit: Upon approval of the appropriate department chairperson and the Vice Dean, up to 9 credits of graduate work may be transferred into the M.F.A. program as Art History or Studio electives. Only credits received within five years of the transfer request are eligible. No decisions are made concerning transfer credits until students have successfully completed 15 matriculated credits at Tyler. The maximum number of credits a student may transfer is 9.

Program Requirements

General Program Requirements:
Total Number of Credits Required to Earn the Degree: 60

Required Courses:

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<th>Credit Hours</th>
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<td>CRFT 8401/8402</td>
<td>Graduate Seminar, Metals (4 terms)</td>
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<td>CRFT 8483/8484</td>
<td>Graduate Projects, Metals (4 terms)</td>
<td>12</td>
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<tr>
<td>CRFT 9484</td>
<td>Graduate Thesis Exhibition: Metals (1 term)</td>
<td>3</td>
</tr>
<tr>
<td>CRFT 9495</td>
<td>Graduate Thesis Research: Metals (2 terms)</td>
<td>6</td>
</tr>
<tr>
<td>TYLE 8001</td>
<td>Graduate Professional Practices (1 term)</td>
<td>3</td>
</tr>
<tr>
<td>Art History Courses</td>
<td>2</td>
<td>12</td>
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<tr>
<td>Studio Electives</td>
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<tr>
<td>Total Credit Hours</td>
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<td>60</td>
</tr>
</tbody>
</table>

1 Courses are sequenced to be taken in the Fall and Spring terms. The sequence is repeated a second year for a total of four courses taken over four terms.

2 Of the four required courses, two must be Art History Seminar classes chosen from a range of graduate offerings (5000 to 5800 or 8000 to 9980).

3 Course descriptions can be viewed on the Class Schedule (http://www.temple.edu/apply/common/cccheck.asp). Please note that taking any course under the 5000 level for graduate credit requires prior approval from the studio area head.

Culminating Events:

Thesis Exhibition:
An approved thesis exhibition, written statement of working philosophy, and slide and/or CD portfolio are required at the final review in order to meet M.F.A. requirements. The thesis exhibition should be the fruit of the two years’ studio research and practice in which the student engaged. The student defends her/his thesis exhibition to the review committee. The committee then evaluates the exhibition as pass with distinction, pass, or fail.

Contacts

Program Web Address:
http://tyler.temple.edu/programs/metals-jewelry-cad-cam

Department Information:
Tyler School of Art
Graduate Admissions Office
2001 N. 13th Street
Philadelphia, PA 19122-6016
tylerart@temple.edu
215-777-9090

Mailing Address for Official Transcripts:
Tyler School of Art
Graduate Admissions Office
2001 N. 13th Street
Philadelphia, PA 19122-6016

Submission Address for Portfolio:
https://temple.slideroom.com/

Submission Address for All Other Application Materials:
https://apply.temple.edu/Tyler/

Department Contacts:

M.F.A. Program Director:
Stanley Lechtzin
Department Head
stanley.lechtzin@temple.edu
215-777-9129

Crafts Department Chairperson:
Chad D. Curtis
chad.curtis@temple.edu
215-777-9201

Painting, M.F.A.

TYLER SCHOOL OF ART (http://tyler.temple.edu/#/prospective)

About the Program

The graduate program in Painting is a two-year, 60-credit program leading to the Master of Fine Arts degree. The program emphasizes Painting as an ongoing discipline that is rooted in a rich history. It derives its vitality from what painters share with artists of the past in conjunction with the contemporary world. We are committed to providing our students with an understanding of the broad cultural and historical context in which art is made and experienced.

Time Limit for Degree Completion: 4 years

Campus Location: Main
Full-Time/Part-Time Status: Full-time status is required.

Interdisciplinary Study: The focus in Painting is augmented and balanced by specially designed graduate-level Art History courses and seminars; a required interdisciplinary seminar; and studio electives that ensure cross-disciplinary contact among students.

Study Abroad: The graduate student in Painting can elect to spend one of the two years in the program at Temple's campus in Rome, Italy. Since space is limited, faculty approval is required. Students can also elect to spend a summer in Rome or with the Crafts Department program in Scotland.


Accreditation: This degree program is accredited by the National Association of Schools of Art and Design.

Areas of Specialization: We encourage independent artistic exploration and development in an atmosphere of free and open exchange between students and a professionally active faculty. Our aim is to produce artists who will be creatively active throughout their lives, enriching their communities in many different capacities.

Job Prospects: The M.F.A. program prepares graduates for careers as professional artists, craftspersons, designers, and educators.

Non-Matriculated Student Policy: M.F.A. courses are restricted to matriculated students.

Financing Opportunities: The principal duties of a Teaching Assistant (TA) or Academic Intern (AI) include assisting faculty members in preparing and teaching undergraduate classes.

Admission Requirements and Deadlines

Application Deadline:

Fall: January 6
Applications are evaluated together after the deadline date.
APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members, gallery directors, and/or curators familiar with the applicant's academic and artistic competence. The letters should be submitted with the application at https://apply.temple.edu/Tyler/, along with the statement of goals and resume.

Coursework Required for Admission Consideration: 40 undergraduate studio credits and 12 art history credits are required.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree and a portfolio specific to Painting are required. Official transcripts from all universities/colleges attended, whether or not a degree was awarded, must be sent to the Tyler School of Art, Graduate Admissions Office, 2001 N. 13th Street, Philadelphia, PA 19122-6016.

Statement of Goals: Approximately 500 to 1,000 words include your interest in Tyler's program, your research goals, your future career goals, and your academic and artistic achievements.

Standardized Test Scores:

TOEFL: 79 iBT or 550 PBT minimum
IELTS: 6.5 minimum

Portfolio: As a Master of Fine Arts applicant, you must submit a portfolio that consists of 20 images representative of the immediate direction of your work. Portfolios are to be uploaded at https://temple.slideroom.com, as instructed at the website. SlideRoom requires an additional fee for this service. Original work, slides, CD-ROMs, catalogs, photographs, books, and/or binders are not acceptable substitutes for the SlideRoom portfolio and will not be reviewed or returned.

Resume: Current resume required.

Transfer Credit: Upon approval of the appropriate department chairperson and the Associate Dean, up to 9 credits of graduate work may be transferred into the M.F.A. program as Art History or Studio electives. Only credits received within five years of the transfer request are eligible. No decisions are made concerning transfer credits until students have successfully completed 15 matriculated credits at Tyler. The maximum number of credits a student may transfer is 9.

Program Requirements

General Program Requirements:
Number of Credits Required to Earn the Degree: 60

Required Courses:

<table>
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<tr>
<th>Code</th>
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<th>Credit Hours</th>
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</tr>
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<td>PDS 8183</td>
<td>Graduate Projects: Sculpture</td>
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<td>PDS 8383</td>
<td>Graduate Projects: Painting and Sculpture</td>
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<td>PDS 8483</td>
<td>Graduate Projects: Painting</td>
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</tr>
<tr>
<td>PDS 8502/8503</td>
<td>Graduate Seminar (4 terms)</td>
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</tr>
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<td>TYLE 8001</td>
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Art History Courses

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</thead>
</table>

Studio Electives

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
</table>

Total Credit Hours

1 Courses are sequenced to be taken in the Fall and Spring terms. The sequence is repeated a second year for a total of four courses taken over four terms.

2 Of the four required courses, two must be Art History Seminar classes chosen from a range of graduate offerings (5000 to 5800 or 8000 to 9800).

3 Course descriptions can be viewed on the Class Schedule (http://www.temple.edu/apply/common/cddcheck.asp). Please note that taking any course under the 5000 level for graduate credit requires prior approval from the studio area head.

Culminating Events:

Thesis Exhibition with Slide Show:

Schools, Colleges, and Divisions
An approved thesis exhibition, written statement, and slide and/or CD portfolio are required at the final review in order to meet the M.F.A. requirements. Approval of the student's graduate committee is required.

Contacts
Program Web Address:  
http://tyler.temple.edu/programs/painting-drawing

Department Information:
Tyler School of Art  
Graduate Admissions Office  
2001 N. 13th Street  
Philadelphia, PA 19122-6016  
tylerart@temple.edu  
215-777-9090

Mailing Address for Official Transcripts:
Tyler School of Art  
Graduate Admissions Office  
2001 N. 13th Street  
Philadelphia, PA 19122-6016

Submission Address for Portfolio:
https://temple.slideroom.com/

Submission Address for All Other Application Materials:
https://apply.temple.edu/Tyler/

Department Contacts:
M.F.A. Program Director:  
Susan Moore  
susan.moore@temple.edu  
215-777-9176

Department Chairperson - Painting, Drawing and Sculpture:  
Susan Moore  
susan.moore@temple.edu  
215-777-9176

Photography, M.F.A.
TYLER SCHOOL OF ART (http://tyler.temple.edu/#/prospective)

About the Program
The graduate program in Photography is a two-year, 60-credit program leading to the Master of Fine Arts degree. The Photography program offers a variety of specialized workshops focusing on current cultural and personal issues. Within the M.F.A. program, we encourage the development of an intimate and productive working environment utilizing a variety of photographic and digital media, resulting in an individual thesis exhibition.

Time Limit for Degree Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: Full-time status is required.

Interdisciplinary Study: The focus in Photography is augmented and balanced by specially designed graduate-level Art History courses and seminars; a required interdisciplinary seminar; and studio electives that ensure cross-disciplinary contact among students.

Study Abroad: Tyler students may elect to spend a term or year in the Rome program, subject to the approval of the Photography faculty.

Accreditation: This degree program is accredited by the National Association of Schools of Art and Design.

Areas of Specialization: The Photography area houses studios that facilitate the use of various creative approaches to the medium, including handmade cameras, large-format photography, offset production, experimental and digital imaging, historical processes, critical theory, professional digital color, black-and-white printmaking, and career options for artists.

Job Prospects: The M.F.A. program prepares graduates for careers as professional photographers and educators. M.F.A. graduates also explore the many fields of applied art and act as curators, critics, and researchers.

Non-Matriculated Student Policy: M.F.A. courses are restricted to matriculated students.

Financing Opportunities: The principal duties of the Teaching Assistant (TA) or Academic Intern (AI) include assisting faculty members in preparing apparatus or materials for demonstrations and maintenance and/or monitoring of studio and exhibition areas and equipment.

Admission Requirements and Deadlines
Application Deadline:
Fall: January 6

Applications are evaluated together after the deadline date.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members and gallery directors/curators familiar with the applicant's academic and artistic competence. The letters should be submitted with the application at https://apply.temple.edu/Tyler/, along with the statement of goals and resume.

Coursework Required for Admission Consideration: 40 undergraduate studio credits and 12 art history credits are required.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree and a portfolio in Photography are required. Official transcripts from all universities/colleges attended, whether or not a degree was awarded, must be sent to the Tyler School of Art, Graduate Admissions Office, 2001 N. 13th Street, Philadelphia, PA 19122-6016.

Statement of Goals: Approximately 500 to 1,000 words include your specific interest in Tyler's program, your research goals, your future career goals, and your academic and artistic achievements.

Standardized Test Scores:
TOEFL: 79 iBT or 550 PBT minimum
**Program Requirements**

**General Program Requirements:**

*Number of Credits Required to Earn the Degree:* 60

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GAD 8201</td>
<td>Digital Projects</td>
<td></td>
</tr>
<tr>
<td>GAD 8211/8212</td>
<td>Graduate Seminar in Photography (4 terms)</td>
<td>3</td>
</tr>
<tr>
<td>GAD 8255</td>
<td>Graduate Photo Workshop: Digital Photography</td>
<td>3</td>
</tr>
<tr>
<td>GAD 8283/8284</td>
<td>Graduate Projects in Photography I (4 terms)</td>
<td>12</td>
</tr>
<tr>
<td>TYLE 8001</td>
<td>Graduate Professional Practices</td>
<td></td>
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<tr>
<td>Art History Courses</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Studio Electives</td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

**Total Credit Hours:** 60

1. Courses are sequenced to be taken in the Fall and Spring terms. The sequence is repeated a second year for a total of four courses taken over four terms.

2. Of the four required courses, two must be Art History Seminar classes chosen from a range of graduate offerings (5000 to 5800 or 8000 to 9980).

3. Course descriptions can be viewed on the Class Schedule (http://www.temple.edu/apply/common/cdcheck.asp). Please note that taking any course under the 5000 level for graduate credit requires prior approval from the studio area head.

**Culminating Events:**

*Thesis Exhibition:* An approved thesis exhibition, written statement of working philosophy, and slide and/or CD portfolio are required at the final review in order to meet the M.F.A. requirements. The thesis exhibition should be the fruit of the two years’ studio research and practice in which the student engaged. The student defends her/his thesis exhibition to the review committee. The committee then evaluates the exhibition as pass with distinction, pass, or fail.

**Contacts**

**Program Web Address:**

http://tyler.temple.edu/programs/photography

**Department Information:**

Tyler School of Art  
Graduate Admissions Office  
2001 N. 13th Street  
Philadelphia, PA 19122-6016  
tylerart@temple.edu  
215-777-9090

**Mailing Address for Official Transcripts:**

Tyler School of Art  
Graduate Admissions Office  
2001 N. 13th Street  
Philadelphia, PA 19122-6016

**Submission Address for Portfolio:**

https://temple.slideroom.com/

**Submission Address for All Other Application Materials:**

https://apply.temple.edu/Tyler/

**Department Contacts:**

*M.F.A. Program Director:*  
Byron Wolfe  
byron.wolfe@temple.edu  
215-777-9244

**Printmaking, M.F.A.**

TYLER SCHOOL OF ART (http://tyler.temple.edu/##/prospective)

**About the Program**

The graduate program in Printmaking is a two-year, 60-credit program leading to the Master of Fine Arts degree. The program provides a challenging, professionally directed curriculum with classes that offer a broad range of methods, approaches, and practical applications in the field of Printmaking. Students are encouraged to develop a personal vision and direction in their work. M.F.A. candidates have 24-hour access to a separate, fully equipped print studio.

**Time Limit for Degree Completion:** 4 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** Full-time status is required.

**Interdisciplinary Study:** The focus in Printmaking is augmented and balanced by specially designed graduate-level Art History courses and seminars; a required interdisciplinary seminar; and studio electives that ensure cross-disciplinary contact among students.

**Study Abroad:** Students can elect to spend one of the two years of the program at Temple’s campus in Rome. As space is limited, faculty approval is required.
Accreditation: This degree program is accredited by the National Association of Schools of Art and Design.

Areas of Specialization: The Printmaking area encompasses facilities for silkscreen, lithography, and etching. M.F.A. candidates work with faculty who are actively exhibiting professional artists. The faculty encourage the exploration of advanced printmaking techniques that include color and photo-etching, metal engraving, mezzolint, photolithography, viscosity color printing, woodcut, and full utilization of the computer as an image-creating tool.

Job Prospects: The M.F.A. program prepares graduates for careers as professional artists and educators.

Non-Matriculated Student Policy: M.F.A. courses are restricted to matriculated students.

Financing Opportunities: The principal duties of a Teaching Assistant (TA) or Academic Intern (AI) include assisting faculty members in preparing apparatus or materials for demonstrations, as well as maintenance and/or monitoring of studio and exhibition areas and equipment.

Admission Requirements and Deadlines

Application Deadline:

Fall: January 6

Applications are evaluated together after the deadline date.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members, gallery directors, and/or curators familiar with the applicant's academic and artistic competence. The letters should be submitted with the application at https://apply.temple.edu/Tyler/, along with the statement of goals and resume.

Coursework Required for Admission Consideration: 40 undergraduate studio credits and 12 art history credits are required.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree and a portfolio specific to Printmaking are required. Official transcripts from all universities/colleges attended, whether or not a degree was awarded, must be sent to the Tyler School of Art, Graduate Admissions Office, 2001 N. 13th Street, Philadelphia, PA 19122-6016.

Statement of Goals: Approximately 500 to 1,000 words include your interest in Tyler's program, your research goals, your future career goals, and your academic and artistic achievements.

Standardized Test Scores:
TOEFL: 79 iBT or 550 PBT minimum
IELTS: 6.5 minimum

Portfolio: As a Master of Fine Arts applicant, you must submit a portfolio that consists of 20 images representative of the immediate direction of your work. Portfolios are to be uploaded at https://temple.slideroom.com, as instructed at the website. SlideRoom requires an additional fee for this service. Original work, slides, CD-ROMs, catalogs, photographs, books, and/or binders are not acceptable substitutes for the SlideRoom portfolio and will not be reviewed or returned.

Resume: Current resume required.

Transfer Credit: Upon approval of the department chairperson and the Vice Dean, up to 9 credits of graduate work may be transferred into the M.F.A. program as Art History or Studio electives. Only credits received within five years of the transfer request are eligible. No decisions are made concerning transfer credits until students have successfully completed 15 matriculated credits at Tyler. The maximum number of credits a student may transfer is 9.

Program Requirements

General Program Requirements:
Number of Credits Required to Earn the Degree: 60

Required Courses:

<table>
<thead>
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<th>Code</th>
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<th>Credit Hours</th>
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</thead>
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<td>GAD 8111/8112</td>
<td>Graduate Seminar in Printmaking (4 terms)</td>
<td>12</td>
</tr>
<tr>
<td>GAD 8183/8184</td>
<td>Graduate Projects in Printmaking (4 terms)</td>
<td>12</td>
</tr>
<tr>
<td>TYLE 8001</td>
<td>Graduate Professional Practices (1 term)</td>
<td>3</td>
</tr>
<tr>
<td>Art History Courses 2</td>
<td></td>
<td>12</td>
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<tr>
<td>Studio Electives 3</td>
<td></td>
<td>21</td>
</tr>
</tbody>
</table>

Total Credit Hours: 60

1 Courses are sequenced to be taken in the Fall and Spring terms. The sequence is repeated a second year for a total of four courses taken over four terms.

2 Of the four required courses, two must be Art History Seminar classes chosen from a range of graduate offerings (5000 to 5800 or 8000 to 9980).

3 Course descriptions can be viewed on the Class Schedule (http://www.temple.edu/apply/common/cdcheck.asp). Please note that taking any course under the 5000 level for graduate credit requires prior approval from the studio area head.

Culminating Events:

Thesis Exhibition:
An approved thesis exhibition, written statement of working philosophy, and slide and/or CD portfolio are required at the final review in order to meet the M.F.A. requirements. The thesis exhibition should be the fruit of the two years’ studio research and practice in which the student engaged. The student defends her/his thesis exhibition to the review committee. The committee then evaluates the exhibition as pass with distinction, pass, or fail.

Contacts

Program Web Address:
http://tyler.temple.edu/programs/printmaking

Department Information:
Tyler School of Art
Graduate Admissions Office
2001 N. 13th Street
Philadelphia, PA 19122-6016
Sculpture, M.F.A.

TYLER SCHOOL OF ART (http://tyler.temple.edu/#/prospective)

About the Program

The graduate program in Sculpture is a two-year, 60-credit program leading to the Master of Fine Arts degree. The program provides an intense and stimulating work environment for the extremely motivated student of Sculpture. It is intended to prepare the student for practice as a professional artist and can offer foundation experience for university teaching if the participant is so motivated.

Time Limit for Degree Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: Full-time status is required.

Interdisciplinary Study: The focus in Sculpture is augmented and balanced by specially designed graduate-level Art History courses and seminars; a required team-taught interdisciplinary seminar with students of Painting; studio electives that ensure cross-disciplinary contact among students; and access to specialized technical areas.

Study Abroad: Students can elect to spend a summer in Rome or with the Crafts Department program in Scotland.

Accreditation: This degree program is accredited by the National Association of Schools of Art and Design.

Areas of Specialization: Courses provide a framework in which to develop individual creative practices and professional goals within a community of peers. The faculty to student ratio of three full-time Sculpture professors to eight graduate students provides a supportive learning environment, while encouraging a spirit of friendly competition. All of the professors are actively exhibiting artists with differing aesthetics. All are committed teachers. Our graduate students are selected to represent a diversity of sculptural approaches. Faculty are able to mentor research in a range of areas in sculptural practice.

Job Prospects: The M.F.A. program prepares graduates for careers as professional artists and educators.

Non-Matriculated Student Policy: M.F.A. courses are restricted to matriculated students.

Financing Opportunities: The principal duties of a Teaching Assistant (TA) or Academic Intern (AI) include assisting faculty members in preparing and teaching undergraduate classes.

Admission Requirements and Deadlines

Application Deadline:
Fall: January 6

Applications are evaluated together after the deadline date.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members, gallery directors, and/or curators familiar with the applicant's academic competence and abilities in the professional visual arts. The letters should be submitted with the application at https://apply.temple.edu/Tyler/, along with the statement of goals and resume.

Coursework Required for Admission Consideration: 40 undergraduate studio credits and 12 art history credits are required.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree and a documented portfolio of sculptural work are required. A wide range of media/disciplines may be appropriate, including traditional and mixed sculptural media, performance, installation, and time/sound-based media. Official transcripts from all universities/colleges attended, whether or not a degree was awarded, must be sent to the Tyler School of Art, Graduate Admissions Office, 2001 N. 13th Street, Philadelphia, PA 19122-6016.

Statement of Goals: Approximately 500 to 1,000 words include your interest in Tyler's program, your research goals and philosophy of work, your future career goals, and your academic and artistic achievements.

Standardized Test Scores:
TOEFL: 79 iBT or 550 PBT minimum
IELTS: 6.5 minimum

Portfolio: As a Master of Fine Arts applicant, you must submit a portfolio that consists of 20 images representative of the immediate direction of your work. Portfolios are to be uploaded at https://temple.slideroom.com, as instructed at the website. SlideRoom requires an additional fee for this service. Original work, slides, CD-ROMs, catalogs, photographs, books, and/or binders are not acceptable substitutes for the SlideRoom portfolio and will not be reviewed or returned.

Resume: Current resume required.

Transfer Credit: Upon approval of the appropriate department chairperson and the Vice Dean, up to 9 credits of graduate work may be
transferred into the M.F.A. program as Art History or Studio electives. Only credits received within five years of the transfer request are eligible. No decisions are made concerning transfer credits until students have successfully completed 15 matriculated credits at Tyler. The maximum number of credits a student may transfer is 9.

Program Requirements

General Program Requirements:
Number of Credits Required to Earn the Degree: 60

Required Courses:

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tr>
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<td>Project and Seminar Courses</td>
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<td>Select 18 credits over 4 terms from the following:</td>
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<tr>
<td>PDS 8011</td>
<td>Graduate Drawing</td>
<td></td>
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<tr>
<td>PDS 8183</td>
<td>Graduate Projects: Sculpture</td>
<td></td>
</tr>
<tr>
<td>PDS 8283</td>
<td>Graduate Projects: Painting</td>
<td></td>
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<td>PDS 8383</td>
<td>Graduate Projects: Painting and Sculpture</td>
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<tr>
<td>PDS 8483</td>
<td>Graduate Projects: Painting</td>
<td></td>
</tr>
<tr>
<td>PDS 8502/8503</td>
<td>Graduate Seminar (4 terms)</td>
<td>12</td>
</tr>
<tr>
<td>TYLE 8001</td>
<td>Graduate Professional Practices (1 term)</td>
<td>3</td>
</tr>
<tr>
<td>Art History Courses 2</td>
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<td>Studio Electives 3</td>
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</tr>
<tr>
<td>Total Credit Hours</td>
<td>60</td>
<td></td>
</tr>
</tbody>
</table>

1 Courses are sequenced to be taken in the Fall and Spring terms. The sequence is repeated a second year for a total of four courses taken over four terms. Alternately, if the course sequence of PDS 8502 and PDS 8503 is followed only once, the student must take two terms of another M.F.A. graduate seminar.

2 Of the four required courses, two must be Art History Seminar classes chosen from a range of graduate offerings (5000 to 5800 or 8000 to 9980).

3 Course descriptions can be viewed on the Class Schedule (http://www.temple.edu/apply/common/cdcheck.asp). Please note that taking any course under the 5000 level for graduate credit requires prior approval from the studio area head.

Culminating Events:

Thesis Exhibition:
An approved thesis exhibition, written statement of working philosophy, and slide and/or CD portfolio are required at the final review in order to meet the M.F.A. requirements. The thesis exhibition should be the fruit of the two years’ studio research and practice in which the student engaged. The student defends her/his thesis exhibition to the review committee. The committee then evaluates the exhibition as pass with distinction, pass, or fail.

Contacts

Program Web Address:
http://tyler.temple.edu/programs/sculpture

Department Information:
Tyler School of Art
Graduate Admissions Office
2001 N. 13th Street

Philadelphia, PA 19122-6016
tylerart@temple.edu
215-777-9090

Mailing Address for Official Transcripts:
Tyler School of Art
Graduate Admissions Office
2001 N. 13th Street
Philadelphia, PA 19122-6016

Submission Address for Portfolio:
https://temple.slideroom.com/

Submission Address for All Other Application Materials:
https://apply.temple.edu/Tyler/

Department Contacts:

M.F.A. Program Director:
Karyn Olivier
karyn.olivier@temple.edu
215-777-9176

Department Chairperson - Painting, Drawing and Sculpture:
Susan Moore
susan.moore@temple.edu
215-777-9176

Graduate Certificate: Arts in Community

TYLER SCHOOL OF ART (http://tyler.temple.edu/#/prospective)

About the Certificate
The graduate certificate in Community in Arts was started as a commitment to the many and varied communities in Philadelphia and to Tyler students’ education as artists to combine artistic disciplines with skills and knowledge in community organizing, positioning them for an expanded civic role in the 21st century. The certificate program develops and delivers university courses, after-school workshops, intergenerational forums, interdisciplinary performances, and site-specific installations. At its core are community partnerships and internships that enable Tyler/Temple students to expand their art disciplines as community collaborators. For several years, the Community in Arts program has created a body of community-based arts works, establishing a network of relationships and ongoing presence in neighborhoods that translates into continued projects. We have worked with youth and adults, organizations and families, in North Philadelphia neighborhoods and beyond, building a broad range of community arts partnerships that stimulate dialogue and share history to create exhibitions and interdisciplinary performances based on community lives and stories and shared student experiences.

Time Limit for Certificate Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: The graduate certificate must be completed on a part-time basis presently.
Ranking: Tyler School of Art has been ranked as one of the top 10 art schools in the country by *U.S. News & World Report*, Graduate School edition.

Accreditation: The Tyler School of Art is accredited by the National Association of Schools of Art and Design.

Job Prospects: The certificate program is primarily dedicated to producing well-trained community arts organizers and educators.

Non-Matriculated Student Policy: All courses are available to non-matriculated graduate students who register by submitting a standard form along with a copy of their undergraduate and/or graduate transcript(s) indicating degree awarded to the Tyler Office of Admissions. When the student completes 9 credits, s/he must declare her/his intention to complete the Community in Arts certificate by submitting the “Non-Degree Seeking Student Request to Exceed 9 Credits of Graduate Coursework for Certificate Program” form, found in TUportal under the Tools tab within “University Forms,” to the Tyler Office of Admissions.

Admission Requirements and Deadlines

Application Deadline:

*Fall* and *Spring* admissions are on a rolling basis. Interested students should contact the Tyler Office of Admissions for permission to enroll in coursework.

Bachelor's Degree in Discipline/Related Discipline: Applicants must hold a baccalaureate degree.

Other: Matriculated graduate students may take certificate classes as electives for their program of study with the approval of their program advisor.

Certificate Requirements

Number of Credits Required to Complete the Certificate: 12

Required Courses:

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<th>Code</th>
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<td>ARTE 8011</td>
<td>Interdisciplinary Seminar in Community Arts</td>
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</tr>
<tr>
<td>ARTE 8087</td>
<td>Research and Project Planning Seminar in Community Arts</td>
<td>3</td>
</tr>
<tr>
<td>ARTE 8187</td>
<td>Field Work in Community Arts</td>
<td>3</td>
</tr>
<tr>
<td>ARTE 8287</td>
<td>Evaluation and Documentation Seminar in Community Arts</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours 12

Contacts

Certificate Program Web Address:

http://tyler.temple.edu/programs/community-arts-practices

Admissions Information:

Tyler School of Art
Graduate Admissions Office
2001 N. 13th Street
Philadelphia, PA 19122-6016
tylerart@temple.edu

Department Contacts:

Faculty Advisor:
Dr. Billy Yalowitz
yalowitz@temple.edu

215-777-9090
Tyler School of Art / Division of Architecture and Environmental Design

In December 2015, the Temple University Board of Trustees moved the Departments of Landscape Architecture and Horticulture and of Planning and Community Development along with the Center for Sustainable Communities to the Tyler School of Art. In 2016, the Board approved the creation of the Division of Architecture and Environmental Design as a part of Tyler.

The mission of the Division of Architecture and Environmental Design is the enhancement of the relationship between individuals, social patterns, and political systems and the natural, built, and cultural environments of contemporary life. The programs uphold the environmental traditions established by the Pennsylvania School of Horticulture for Women and carried forward by our founding Department of Landscape Architecture and Horticulture, as well as a commitment to the present and future sustainability of neighborhoods, cities, and regions by our Department of Planning and Community Development. The Division's core values are student-centered learning, community engagement, and environmental responsibility.

The Department of Architecture offers the Master of Architecture, a first professional degree program at the graduate level accredited by the National Architecture Accrediting Board. The department engages the city, exploring and addressing the ethical and social dimensions of architecture and the urban environment. Through this engagement, it seeks to develop an ethos of responsibility in students, preparing them to become effective leaders in practices and discourses surrounding the complex global and local issues of our time. The M.Arch. is housed in the LEED Silver certified (2014) Architecture Building on the Main campus of Temple University.

The Department of Landscape Architecture and Horticulture traces its origins to the Pennsylvania School of Horticulture for Women, founded in 1911 at Ambler Campus. In Fall 2010, it added a Master of Landscape Architecture (M.L.Arch.) degree. The department's evolution has combined theory with practice, continuing the tradition of blending art and science with practical experience. Committed to excellence in ecologically based education, the department provides students with the knowledge and understanding of sustainable environments. Through an ecological approach to planning, design, development, and care of the land, the programs in Landscape Architecture and Horticulture promote the development of skills to improve the quality of urban, suburban, and rural communities. Courses and programs are offered that utilize the 187-acre Ambler campus as both an arboretum and a living laboratory for faculty and students. Students also have the opportunity to conduct research in a state-of-the-art greenhouse.

The Department of Planning and Community Development was established in 2002, originally as the Department of Community and Regional Planning. It prepares students to be skilled practitioners for the dynamic and growing fields of community development and community and regional planning. Accredited by the Planning Accreditation Board, the Master of Science in City and Regional Planning cultivates an understanding of the physical and economic context of planning, sensitivity to the social and environmental impact of public policies, and knowledge of governmental structures as they apply to planning. The M.S. degree program enables students to lead efforts to create and maintain healthy, sustainable communities by providing a broad-based understanding and awareness of multi-dimensional aspects of urban, suburban, and rural community challenges and the means of effecting change from both grass-roots and public policy perspectives. Students have the option of completing degree requirements at the Temple Center City Campus (TUCC) or the Ambler campus.

Programs

Degree Programs and Certificates

- Architecture, M.Arch. (p. 52)
- City and Regional Planning, M.S. (p. 55)
- Landscape Architecture, M.L.Arch. (p. 58)
- Graduate Certificate: Sustainable Community Planning (p. 60)
- Graduate Certificate: Transportation Planning (p. 61)

Architecture, M.Arch.

TYLER SCHOOL OF ART (http://tyler.temple.edu/#/prospective)

DIVISION OF ARCHITECTURE AND ENVIRONMENTAL DESIGN

About the Program

The Master of Architecture (M.Arch.) program is a first professional degree that prepares students for the practice of architecture through a rigorous course of study that engages students with urgent urban, architectural, and environmental issues. The program is structured to enable students to learn theories and methodologies of architectural design as well as to understand the social, economic, political, and technological forces that shape the built environment.

The curriculum is centered on a progressive sequence of design studios, intensive courses that require the synthesis and application of knowledge from other classes. Seminars in research, history/theory, building technology, and professional practice address questions in tandem with design studios. Elective courses allow students to pursue specializations with focus and intent. Together, the architecture courses satisfy professional accreditation requirements. During the final year of study, students may apply to engage in a self-directed research and design inquiry that culminates in a design thesis. The year-long architectural thesis is advanced by the individual student’s interests and skills under the guidance of an advisor.

The Architecture Department offers three tracks for the M.Arch.: a 1-year, 2-year, or 3-year program depending on a student's educational background upon entry to the degree:

- The 1-year track is a +1 accelerated undergraduate-graduate program that enables qualified and eligible students to complete the 60-credit M.Arch. degree within a year after graduation with the Bachelor of Science in Architecture pre-professional degree. This accelerated degree program consists of a minimum of 111 credits of undergraduate coursework, and a maximum of 12 credits of graduate coursework to count toward both the undergraduate and graduate degrees. Upon successful completion of the fourth year, students receive a Bachelor of Science in Architecture. At the end of the contiguous fifth year (including two summer terms of graduate coursework), students receive a Master of Architecture degree.

To be eligible for this program, students must be declared as an Architecture major; have a minimum of 3.25 cumulative GPA in at least 45 credits of coursework taken at Temple; be able to complete...
their undergraduate degree in four full-time terms (beginning with their first term taking a graduate course as an undergraduate); and be able to complete the graduate degree in one additional year, including the two summer terms of graduate coursework.

- The 2-year track is a 60-credit degree program for students who earn Temple University’s Bachelor of Science in Architecture (B.S.Arch.) degree and for students from other four-year pre-professional degree programs with equivalent course content, nationally and internationally.
- The 3-year track provides a curriculum of up to 90 credits for students with a degree in subjects outside of architecture or without a pre-professional degree in architecture. The first year of this program provides a rigorous introduction to architectural design that consists of up to 30 credits of pre-professional studies, including design studios, building technology courses, and history and theory seminars. Each student is individually evaluated and placed into courses. The number of credits students will need to take within the first year varies depending on the amount of pre-professional architectural course content that has been previously satisfied by the candidate. Students who have little or no architectural content at the undergraduate level will be required to take the full 30 credits of pre-professional studies in architecture. Students who have degrees in architectural studies may receive advanced standing within the 3-year track.

**Time Limit for Degree Completion:** 5 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The curriculum is designed for a full-time load of 15 credits per term. Students are, however, able to complete the degree program on a part-time basis.

**Study Abroad:** M.Arch. students in the Professional Track may choose to study at the TU Rome or TU Japan campuses in the Spring terms.

**Accreditation:** The M.Arch. degree program is accredited by the National Architectural Accrediting Board (NAAB), which requires publication of the following statement:

In the United States, most registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit professional degree programs in architecture offered by institutions with U.S. regional accreditation, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted an eight-year, three-year, or two-year term of accreditation, depending on the extent of its conformance with established educational standards. Doctor of Architecture and Master of Architecture degree programs may require a pre-professional undergraduate degree in architecture for admission. However, the pre-professional degree is not, by itself, recognized as an accredited degree.

Temple University Architecture Department offers the following NAAB-accredited degree programs:

- M.Arch. (B.S.Arch. pre-professional degree + 60 graduate credits)
- M.Arch. (baccalaureate degree + up to 90 graduate credits)

The next accreditation visit for all programs is 2022.

**Job Prospects:** The Master of Architecture is an accredited professional degree program that prepares students for a career as a professional architect. Because this is an urban program located centrally in Philadelphia, engagement with the local professional community is a primary characteristic of the program. During their time in the program, students are provided with many opportunities to engage with members of the profession through design critiques and mentorship initiatives.

**Licensure:** In the United States, most state architecture registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The M.Arch. degree is accredited by the National Architectural Accrediting Board (NAAB) and, as such, meets the educational requirements for architectural registration. All students in the Architecture Department are eligible to enroll in the Architectural Experience Program (AXP), a key step toward licensure in most states within the United States, offered by the National Council of Architectural Registration Boards (NCARB).

**Non-Matriculated Student Policy:** Non-matriculated students must contact the Architecture Department for information. A minimum of 9 graduate credits can be taken at Temple University prior to applying to the program.

**Financing Opportunities:** The Architecture Department has a limited number of scholarships for graduate students. Students should also check the Tyler School of Art (http://tyler.temple.edu/#/prospective) and Student Financial Services (http://sfs.temple.edu) websites for financial aid opportunities. Students should complete a FAFSA (http://www.fafsa.ed.gov) application to determine eligibility for student financial aid, work study employment within the Architecture Department, or other eligible on-campus jobs.

**Admission Requirements and Deadlines**

**Application Deadline:**

- Fall: January 6
- Spring: November 1

Applications are reviewed as they are received after the deadline. Students are normally admitted in the Fall term. In the instance when students are admitted in the Spring, they may have limited course offerings in the first term because course sequencing begins in the Fall. See the Tyler School of Art website for the most up-to-date application information.

**APPLY ONLINE to this graduate program.**

**Letters of Reference:**

**Number Required:** 3

**From Whom:** Letters of recommendation should be obtained from college/university faculty members and/or professionals in the field who are familiar with the applicant’s academic and professional competence. The letters should be submitted with the application at https://apply.temple.edu/Tyler/, along with the statement of goals and resume.

**Coursework Required for Admission Consideration:**

The M.Arch. program has three tracks:

1. a +1 accelerated track,
2. a two-year 60-credit track, and
3. a three-year track, up to 90 credits.
The +1 accelerated track is open to qualified students in the Temple B.S. Arch. program. Admission into the two-year track is open only to students who have completed a pre-professional degree in Architecture, i.e., either the Temple B.S. in Architecture program or a program with course content equivalent to the current Temple University B.S. in Architecture. Admission into the three-year track is open to any student who has completed a bachelor’s degree.

All applicants apply directly to the M.Arch. program, not to a specific curricular track. Admitted students are placed in the appropriate track based on a thorough review of all application materials.

Bachelor’s Degree in Discipline/Related Discipline: A pre-professional baccalaureate degree in Architecture (or equivalent) is required for the two-year Professional Track. A baccalaureate degree in any discipline is required for the three-year Intensive Design Track. Official transcripts from all universities/colleges attended, whether or not a degree was awarded, must be sent to Tyler School of Art, Graduate Admissions Office, 2001 N. 13th Street, Philadelphia, PA 19122-6016.

Statement of Goals: Approximately 500 to 1,000 words include your reason for pursuing a degree in Architecture; your interest in Temple’s program in particular; and your aspirations and future career goals.

Standardized Test Scores:
GRE: Required. Average scores are typically in the 50-65% range, particularly on the verbal section.
TOEFL: 79 iBT or 550 PBT minimum
IELTS: 6.5 minimum
Resume: Current resume required.

Portfolio: All applicants must submit a portfolio of their most important and representative design, creative, and written work. Portfolios from students with prior academic experience in Architecture should include architectural design work done in academic settings. Portfolios may also include work in the visual arts or in visual communication. In addition, work completed in practice may be included but should clearly articulate the applicant’s role in the project. Papers, research, or other materials (preferably dealing with the built environment) are invited as evidence of scholarly, academic, or creative work. Work chosen for inclusion in a portfolio should best represent the applicant’s knowledge, aptitudes, interests, creative ability, and experience relative to the discipline of Architecture. The portfolio should include approximately 20 images or other items.

Portfolios are to be uploaded at https://temple.slideroom.com, as instructed on the website. SlideRoom requires an additional fee for this service. Original work, slides, CD-ROMs, catalogs, photographs, books, and/or binders are not acceptable substitutes for the SlideRoom portfolio and will not be reviewed or returned.

Transfer Credit: The Architecture Admissions Committee recommends the awarding of graduate transfer credits on a case-by-case basis as applications are reviewed. The student may not receive graduate transfer credit for coursework taken as part of any other awarded graduate degree. The maximum number of graduate transfer credits a student may receive is 9.

Program Requirements

General Program Requirements:

Number of Credits Required: 60 for the Professional Track; up to 90 for the Intensive Design Track.

Required Courses:

Professional Track

Year 1
Fall

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<tr>
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<th>Title</th>
<th>Credit Hours</th>
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<tr>
<td>ARCH 5351</td>
<td>Env Control Systems 1</td>
<td>3</td>
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<td>ARCH 8011</td>
<td>Adv Arch Des Studio 1</td>
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<td>ARCH 8133</td>
<td>Arch Research Seminar 3</td>
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<tr>
<td>ARCH 8012</td>
<td>Elect Arch Des Studio ¹</td>
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<td>ARCH 8132</td>
<td>Arch Research Seminar 2¹</td>
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Year 2
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<tr>
<td>ARCH 8131</td>
<td>Arch Research Seminar 1</td>
<td>3</td>
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<tr>
<td>ARCH 8352</td>
<td>Env Control Systems 2</td>
<td>3</td>
</tr>
<tr>
<td>ARCH 9991</td>
<td>Directed Research (OR ARCH Elective)</td>
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<td></td>
<td>Term Credit Hours</td>
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<td>ARCH 8096</td>
<td>Professional Practice ¹</td>
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<td>ARCH Elective¹</td>
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<tr>
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<td>Total Credit Hours</td>
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</table>

¹ ROME or TOKYO OPTION: M.Arch. students in the Professional Track can choose to study abroad at the Temple Rome or Temple Japan campuses in the Spring terms. Studio course credits count toward ARCH 8012. Architecture seminar course credits count toward Architecture elective requirements, and other coursework counts toward free elective credits in the program.

Intensive Design Track

Up to 30 credits are taken in Year 1, with the actual number varying according to the amount of architecture pre-professional course content previously satisfied by the student. Students are required to keep a portfolio of coursework taken in Year 1 of the Intensive Design Track. Upon successful completion of Year 1, students undergo a portfolio review prior to entering the 2-year Professional Track. Courses for the Intensive Design Track include:

<table>
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<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<td>ARCH 5011</td>
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Schools, Colleges, and Divisions

ARCH 5012 Graduate Representation Intensive 2 3
ARCH 5122 Graduate Design Foundation Intensive 1 6
ARCH 5231 Graduate Design Studio 1 6
ARCH 5232 Graduate Design Studio 2 6

Building Technology (up to 6 credits)
ARCH 5152 Materials and Methods of Construction 3
ARCH 5251 Structural Analysis for Architects 3

History and Theory (up to 12 credits) 2
ARCH 5141 Architectural History 1: Ancient through Renaissance 3
ARCH 5142 Architectural History 2: Renaissance through 20th Century 3
ARCH 5296 Movements in Modern Architecture 3
ARCH 5596 Seminar in Architectural Theory 3

Total Credit Hours 42

1 Required of students who took fewer than 8 credits of foundation or architectural design studios as undergraduates.
2 Includes 6 credits of which may be taken in Years 2 and 3 as architecture electives.

Culminating Events:
Design Studio Project:
In the Intensive Design Track, students are required to take up to 18 credits of design studio and 6 credits of representation courses. Placement is assessed at the time of application and is based on the student’s portfolio and transcript.

In the Professional Track, students are required to complete four design studios or three design studios and a thesis.

Design Thesis:
Students can undertake an independent design thesis. This option is a two-term, two-course sequence: ARCH 9991 in the Fall, and ARCH 9996 in the Spring. The result is a pre-design position paper and design project analysis, culminating in a design thesis project presentation and written/graphic documentation of the work.

Contacts
Program Web Address:
http://tyler.temple.edu/programs/architecture

Department Information:
Tyler School of Art
Graduate Admissions Office
2001 N. 13th Street
Philadelphia, PA 19122-6016
tylerart@temple.edu
215-777-9090

Mailing Address for Official Transcripts:
Tyler School of Art
Graduate Admissions Office
2001 N. 13th Street
Philadelphia, PA 19122-6016

Submission Address for Portfolio:
https://temple.slideroom.com/

Submission Address for All Other Application Materials:
https://apply.temple.edu/Tyler/

Department Contacts:
M.Arch. Program Head:
Sally Harrison
134 Architecture Building
sharriso@temple.edu
215-204-8813

Department Chairperson:
Rashida Ng
rashida.ng@temple.edu
215-204-3816

City and Regional Planning, M.S.

TYLER SCHOOL OF ART (http://tyler.temple.edu/#/prospective)
DIVISION OF ARCHITECTURE AND ENVIRONMENTAL DESIGN

About the Program
The M.S. in City and Regional Planning is the terminal degree for the planning profession. The primary purpose of the program is to develop skilled practitioners for the dynamic opportunities available in the government, non-profit, and private sectors. Students graduate with strengths in sustainability, environmental planning, community engagement, and advanced methods as well as a broad-based understanding and awareness of the physical and economic aspects of planning, sensitivity to the social and environmental impact of planning decisions, and a knowledge of governmental structures as they apply to planning.

The program’s strength in sustainability and environmental planning reflects a commitment to the late Ian McHarg’s notion of ecologically based planning and takes advantage of the fact that Dr. William Cohen, Professor of Practice, studied with Professor McHarg at the University of Pennsylvania. The concept of an ecologically based planning program involves placing a greater emphasis on the physical sciences than is found in most U.S. planning programs. The program’s emphasis also stems from its emergence from Temple University’s Center for Sustainable Communities.

Time Limit for Degree Completion: 5 years

Campus Locations: Main and Center City

Full-Time/Part-Time Status: The degree program is designed for full-time study, allowing students to complete the program in two years. Alternately, students are able to complete the program on a part-time basis.

Affiliation(s): The Department of Planning and Community Development is a member of the American Planning Association (APA) and Association of Collegiate Schools of Planning (ACSP).

Affiliation(s): The Department of Planning and Community Development is a member of the American Planning Association (APA) and Association of Collegiate Schools of Planning (ACSP).
Study Abroad: The department has a formal agreement with Beijing Forestry University, where study abroad is possible.

Accreditation: The M.S. program in City and Regional Planning is accredited by the Planning Accreditation Board (PAB), which accredits university programs in 77 North American universities leading to undergraduate and graduate degrees in planning. It currently accredits 72 master’s and 16 bachelor’s programs.

PAB’s accreditation curriculum standards emphasize planning knowledge, planning skills, and values and ethics. The standards were revised in 2017 with input from the public and our sponsoring organizations: the American Planning Association (APA); the American Institute of Certified Planners (AICP), the professional planners’ institute within the APA; and the Association of Collegiate Schools of Planning (ACSP).

The M.S. in City and Regional Planning was initially accredited in 2012 and re-accredited in 2016.

Areas of Specialization: Two optional concentrations are available to students in the M.S. in City and Regional Planning degree program:

- Sustainable Community Planning
- Transportation Planning

Graduate certificates in Sustainable Community Planning and Transportation Planning are available to non-matriculated students and students in other Temple University graduate programs, with the approval of their graduate advisor. For more information, see the certificate descriptions in the Graduate Bulletin or on the Department of Planning and Community Development website.

Job Prospects: A graduate degree in city planning is recognized by the profession as the terminal degree. Students graduating from the program easily find employment in the greater Philadelphia region, Commonwealth of Pennsylvania, and beyond. For the past several years, 100 percent of the program’s graduates have found employment in planning or a related field within one year of graduation. Private, public, and non-profit employment opportunities in planning are strong for graduate degree holders based on current need and projected growth over the next decade.

Certification: Students graduating from the accredited M.S. in City and Regional Planning are eligible to sit for the certified planner exam offered by the American Institute of Certified Planners (AICP) within two years of graduation. AICP is the professional institute of the American Planning Association. It provides recognized leadership nationwide in the certification of professional planners. For details on the certified planner exam and eligibility requirements, visit https://www.planning.org/aicp/.

Non-Matriculated Student Policy: Non-matriculated students are permitted to take a maximum of 9 graduate credits at Temple University prior to applying to the program. Please contact the Department of Planning and Community Development for more details.

Financing Opportunities: The Department of Planning and Community Development has a limited number of scholarships for graduate students. Students should also check the Tyler School of Art and Student Financial Services websites for financial aid opportunities. Students should complete a FAFSA application to determine eligibility for student financial aid, work study employment within the department, or other eligible on-campus jobs.

Admission Requirements and Deadlines

Application Deadline:

Fall: January 6  
Spring: November 1

Applications are reviewed as they are received up through the deadline. Late applications may be considered for admission. See the Tyler School of Art website for the most up-to-date application information.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members, planning professionals, and others in a position to evaluate the applicant’s past work and/or ability to do graduate work. The letters should be submitted with the application at https://apply.temple.edu/Tyler/, along with the statement of goals.

Bachelor’s Degree in Discipline/Related Discipline: All applicants must hold a baccalaureate degree from an accredited college or university, but the bachelor’s degree need not be in a related field of study. Official transcripts from all universities/collages attended, whether or not a degree was awarded, must be sent to the Tyler School of Art, Graduate Admissions Office, 2001 N. 13th Street, Philadelphia, PA 19122-6016.

Statement of Goals: Approximately 500 to 1,000 words include your reason for pursuing a degree in City and Regional Planning; your interest in Temple’s program in particular; and your future career goals.

Standardized Test Scores:

GRE/GMAT: Required. A waiver of this requirement may be requested if the applicant has at least four years of experience in the field; OR has an undergraduate cumulative grade point average of at least 3.25; OR a cumulative GPA of at least 3.25 in 9 credits of graduate work from an accredited institution completed prior to applying to the M.S. program; OR a graduate degree from an accredited institution in a related discipline.

TOEFL: 79 iBT or 550 PBT minimum

IELTS: 6.5 minimum

Transfer Credit: The City and Regional Planning Admissions Committee recommends the awarding of transfer credits on a case-by-case basis as applications are reviewed. The student may not receive transfer credit for coursework taken as part of any other awarded graduate degree. The maximum number of credits a student may transfer is 9.

Program Requirements

General Program Requirements:

Number of Credits Required to Earn the Degree: 45

Required Courses:

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<tr>
<td>CTRP 5413</td>
<td>Planning Communications</td>
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<tr>
<td>CTRP 5513</td>
<td>Planning Analysis</td>
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</table>
Schools, Colleges, and Divisions

CTRP 5524 Spatial Analysis Techniques/Geographic Information Systems 3
CTRP 8013 Planning History and Theory 3
CTRP 8016 Planning Law 3
CTRP 8213 Environmental Planning 3

Capstone Course

CTRP 9889 Planning Studio 6
Electives 2 18

Total Credit Hours 45

1 Students who have had significant training in geographic information systems may be allowed to substitute an elective for the required course CTRP 5524 with permission of the graduate advisor or chair of the Department of Planning and Community Development.

2 CTRP or related courses are selected in consultation with a department advisor.

Students may undertake one of two transcripted optional concentrations in fulfilling the coursework requirements for the M.S. degree:

Sustainable Community Planning

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<td>CTRP 8276</td>
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<tr>
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<tr>
<td>CTRP 8155</td>
<td>Ecological Planning and Development</td>
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<tr>
<td>CTRP 8156</td>
<td>Neighborhoods, Cities, and Regions</td>
<td></td>
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<tr>
<td>CTRP 8255</td>
<td>Sustainability in Suburban Communities</td>
<td></td>
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<tr>
<td>CTRP 8257</td>
<td>Environmental Policy</td>
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<tr>
<td>CTRP 8266</td>
<td>Sustainable Business Practices</td>
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<td>CTRP 8355</td>
<td>Environmental Infrastructure Planning and Management</td>
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<tr>
<td>CTRP 8476</td>
<td>Collaborative Planning</td>
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<tr>
<td>CTRP 8755</td>
<td>Introduction to Emergency Management Planning</td>
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Total Credit Hours 12

1 Students may substitute one relevant 3-credit CTRP graduate course selected in consultation with a department advisor or chair as an elective.

Transportation Planning

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<td>CTRP 8656</td>
<td>Integrated Transportation and Land-Use Planning: Context-Sensitive Design Solutions</td>
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<td>CTRP 8657</td>
<td>Non-motorized Transportation Planning</td>
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Total Credit Hours 12

1 Students may substitute one relevant 3-credit CTRP graduate course selected in consultation with a department advisor or chair as an elective.

Internship: A supervised 180-hour internship is required. The internship emphasizes the acquisition and application of practical skills in planning. Placements are made at public agencies, non-profit institutions, and private firms, with designated onsite and Planning and Community Development faculty supervisors. Internships may require interim reports and must culminate in a written report regarding the experience. Students have the option of registering for CTRP 9885 Internship in Planning for 3 elective credits. If the student has relevant professional experience, the internship requirement is waived and CTRP 9885 may not be taken for credit toward the degree.

Culminating Events:

Capstone Course:
All students must complete CTRP 9885 Planning Studio (6 credits), which involves undertaking a planning project in cooperation with a local or regional client. Students synthesize the knowledge gained from previous courses in the development of an integrated approach that is appropriate to their project.

Thesis Option:
The master's thesis is substantial in length and follows a knowledge-enhancement model, based on planning theory, methodology, and history. Requirements are specified in the Graduate School's Dissertation and Thesis Handbook, found at https://grad.temple.edu/resources/dissertation-thesis-handbook. Up to 6 elective credits may be earned for taking CTRP 9995 Thesis in Planning.

The student's Master's Committee is responsible for evaluating the thesis and its defense. No thesis should go to defense unless it is ready for public scrutiny. The committee evaluates the student's ability to express in writing and orally her/his research question, methodological approach, primary findings, and implications. Committee members vote to pass or fail the thesis upon conclusion of the public defense. If the student must make revisions, those changes must be approved as arranged by the Master's Committee.

Contacts

Program Web Address:
https://tyler.temple.edu/programs/planning-community-development

Department Information:
Dept. of Planning and Community Development
Tyler School of Art
2001 N. 13th Street
Philadelphia, PA 19122-6016
planning@temple.edu
267-468-8300

Mailing Address for Official Transcripts:
Tyler School of Art
Graduate Admissions Office
2001 N. 13th Street
Philadelphia, PA 19122-6016
Submission Address for All Other Application Materials:
https://apply.temple.edu/Tyler/

Department Contacts:
Admissions: Director of Admissions
tylerart@temple.edu
Chairperson: Jeffrey P. Doshna, Ph.D., AICP
Graduate Program Head
doshna@temple.edu
215-204-1213

Landscape Architecture, M.L.Arch.
TYLER SCHOOL OF ART (http://tyler.temple.edu/#/prospective)
DIVISION OF ARCHITECTURE AND ENVIRONMENTAL DESIGN

About the Program

The Master of Landscape Architecture has an emphasis in ecological landscape restoration. Program objectives are to educate students to become capable practitioners with knowledge of a specialty area of the discipline; to educate practitioners who are trained to think critically and creatively about each ecological situation; and to develop a body of knowledge through research, long-term monitoring of restored landscapes, and comparison of methods upon which current and future professionals can draw.

The American Society of Landscape Architects (ASLA) describes landscape architecture as a profession encompassing "the analysis, planning, design, management, and stewardship of the natural and built environments." Landscape architecture is a professional discipline that is receiving wider recognition as an environmentally focused profession whose mission is to promote environmental balance and human well-being through sustainable design. Ecological landscape restoration, the emphasis of this M.L.Arch. degree, has emerged as a critical dimension of landscape architecture over the past few decades. This is in response to the enormous negative impact that human activity has had on our environment resulting in ecosystem degradation. Landscape restoration increases local and regional biodiversity and mitigates potentially dangerous consequences of degradation through projects such as stream bank stabilization, created wetlands to help infiltrate storm water, mine reclamation, industrial brown field remediation, and reforestation of urban land. Understanding the ecological processes and natural history that constitute a site is fundamental to the design process.

Time Limit for Degree Completion: 6 years

Campus Location: Ambler, with some courses offered at the Main and Center City campuses

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: The program is interdisciplinary and allows students to enroll in classes from allied disciplines. In addition to the courses in Landscape Architecture, the program builds on the field courses in Horticulture related to the woodland and riparian habitats at the Ambler campus. The program can also draw from the repository of local ecological landscape restoration examples and practitioners in the Philadelphia region.

Affiliation(s): The Department is a member of the American Society of Horticultural Science (ASHS), the American Society of Landscape Architects (ASLA), the Council of Educators in Landscape Architecture (CELA), and the Society for Ecological Restoration (SER).

Accreditation: The Department of Landscape Architecture and Horticulture offers two accredited programs in Landscape Architecture. The first professional Master of Landscape Architecture degree (M.L.Arch.) and the undergraduate Bachelor of Science in Landscape Architecture (B.S.) are both accredited by the Landscape Architectural Accreditation Board (LAAB) of the American Society of Landscape Architects (ASLA).

Areas of Specialization: The focus of the M.L.Arch. degree program is ecological landscape restoration, which emphasizes understanding of ecological processes and plant communities. This understanding is applied in a sequence of design studios. The design application results in connecting theory and scientific principles to creative application in the natural setting. The program educates practitioners skilled at designing beautiful landscapes that are also ecologically appropriate to their locale.

Job Prospects: Prepared with the knowledge to make informed and creative environmental design decisions, graduates are highly marketable and have the skills required of professional landscape architects, including design, computer graphics, horticultural knowledge, technical competence, and knowledge of restoration. While the U.S. Department of Labor cited landscape architecture as a top growth profession through 2016, projecting a needed increase of 16%, organizations related to the profession indicate that the number of graduates from professional degree programs is insufficient to meet current or projected demand. Temple University’s location in the tri-state region supports professional opportunities for graduates. This area has a very high concentration of prominent landscape architecture firms, public agencies, and ecological restoration professionals.

Licensure: Graduation from an accredited program is a requirement for taking the licensure exam and practice as a landscape architect.

Non-Matriculated Student Policy: A maximum of 9 graduate credits can be taken at Temple University prior to applying to the program.

Financing Opportunities: Inquiries about funding should be directed to the Department of Landscape Architecture and Horticulture.

Admission Requirements and Deadlines

Application Deadline:
Fall: January 6
Spring: November 1

Applications are reviewed as they are received up through the deadline. Late applications may be considered for admission. See the Tyler School of Art website for the most up-to-date application information.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 3
From Whom: Letters of recommendation should be obtained from college/university faculty members, employers, and others who can evaluate the applicant's past work and/or ability to do graduate work. The letters should be submitted with the application at https://apply.temple.edu/Tyler/, along with the statement of goals.

Coursework Required for Admission Consideration: All applicants apply directly to the M.L.Arch. program, not to a specific curricular track. Admitted students are placed in the appropriate track based on a thorough review of all application materials.

For students who have an undergraduate degree in Landscape Architecture, this program is a 44-credit post-professional degree. The program is also open to students without a degree in Landscape Architecture, but students without the appropriate prerequisite coursework need a maximum of 26 additional credits.

Bachelor's Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University. Official transcripts from all universities/colleges attended, whether or not a degree was awarded, must be sent to the Tyler School of Art, Graduate Admissions Office, 2001 N. 13th Street, Philadelphia, PA 19122-6016.

Statement of Goals: Approximately 500 to 1,000 words include your reason for pursuing an advanced degree in Landscape Architecture; your interest in Temple's program in particular; and your aspirations and future career goals.

Standardized Test Scores:
GRE/GMAT: Required. A waiver of this requirement may be requested if the applicant has at least four years of experience in the field; OR has an undergraduate cumulative grade point average of at least 3.25; OR a cumulative GPA of at least 3.25 in 9 credits of graduate work from an accredited institution completed prior to applying to the M.S. program; OR a graduate degree from an accredited institution in a related discipline.

TOEFL: 79 iBT or 550 PBT minimum

IELTS: 6.5 minimum

Transfer Credit: The Landscape Architecture Admissions Committee recommends the awarding of transfer credits on a case-by-case basis as applications are reviewed. The student may not receive transfer credit for coursework taken as part of any other awarded graduate degree. The maximum number of transfer credits a student may receive is 9.

Program Requirements

General Program Requirements:
Number of Credits Required to Earn the Degree: 44 for students with an undergraduate degree in Landscape Architecture seeking a post-professional degree; 44-70 for students without an undergraduate degree in Landscape Architecture seeking a first professional degree

Required Courses:

### Post-Professional Degree (for students WITH an undergraduate degree in Landscape Architecture)

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summer I</td>
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<tr>
<td>LARC 8789 Landscape Restoration Workshop</td>
<td>3</td>
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<tr>
<td>Term Credit Hours</td>
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</tr>
<tr>
<td>Fall</td>
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</tr>
<tr>
<td>WOODLANDS</td>
<td></td>
</tr>
<tr>
<td>LARC 5551 Landscape Architecture Computer Technology II</td>
<td>3</td>
</tr>
<tr>
<td>LARC 8151 Woodland Design Studio</td>
<td>4</td>
</tr>
<tr>
<td>LARC 8351 Aesthetics of Ecological Design Seminar</td>
<td>1</td>
</tr>
<tr>
<td>LARC 8751 Northeastern Woodland Ecosystems</td>
<td>3</td>
</tr>
<tr>
<td>Term Credit Hours</td>
<td>11</td>
</tr>
<tr>
<td>Spring</td>
<td></td>
</tr>
<tr>
<td>WETLANDS</td>
<td></td>
</tr>
<tr>
<td>LARC 8152 Wetland/Riparian Design Studio</td>
<td>4</td>
</tr>
<tr>
<td>LARC 8552 Research Design Methods</td>
<td>3</td>
</tr>
<tr>
<td>LARC 8752 Wetland Ecology</td>
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<tr>
<td>Elective</td>
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<td>Term Credit Hours</td>
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</tr>
<tr>
<td>Year 2</td>
<td></td>
</tr>
<tr>
<td>Fall</td>
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<tr>
<td>PUBLIC LANDS</td>
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<tr>
<td>LARC 8153 Public Lands Design Studio</td>
<td>4</td>
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<tr>
<td>LARC 8355 Capstone Seminar</td>
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<tr>
<td>LARC 8755 Native Plant Communities</td>
<td>3</td>
</tr>
<tr>
<td>LARC 8889 Restoration Monitoring Workshop</td>
<td>3</td>
</tr>
<tr>
<td>Term Credit Hours</td>
<td>11</td>
</tr>
<tr>
<td>Spring</td>
<td></td>
</tr>
<tr>
<td>LARC 9995 Capstone Restoration Design Project</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
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<td>Term Credit Hours</td>
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<tr>
<td>Total Credit Hours:</td>
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</tbody>
</table>

1. These three courses (8 credits) are co-requisites and must be taken together.
2. These two courses (7 credits) are co-requisites and must be taken together.
3. Students working toward the post-professional degree select two 3-credit electives in consultation with a Landscape Architecture advisor.

### First Professional Degree (for students WITHOUT an undergraduate degree in Landscape Architecture)

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td>Fall</td>
<td></td>
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<tr>
<td>PREREQUISITES</td>
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<tr>
<td>HORT 8261 Native Woody Plant Identification</td>
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<td>Course Title</td>
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<tr>
<td>LARC 8141</td>
<td>Design Communications/Introductory Design Studio I</td>
</tr>
<tr>
<td>LARC 8241</td>
<td>Landscape Engineering I</td>
</tr>
<tr>
<td>LARC 8496</td>
<td>Landscape Traditions</td>
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<tr>
<td></td>
<td>Term Credit Hours</td>
</tr>
</tbody>
</table>

**Spring**

**PREREQUISITES**
- HORT 8514 Landscape Restoration 3
- LARC 5544 Landscape Architecture Computer Technology I 3
- LARC 8144 Landscape Design Studio II 4
- LARC 8242 Landscape Engineering II 3

**Term Credit Hours** 13

**Summer**
- LARC 8789 Landscape Restoration Workshop 3

**Year 2**

**Fall**
- WOODLANDS
  - LARC 5551 Landscape Architecture Computer Technology II 3
  - LARC 8151 Woodland Design Studio 4
  - LARC 8351 Aesthetics of Ecological Design Seminar 1
  - LARC 8751 Northeastern Woodland Ecosystems 3

**Term Credit Hours** 11

**Spring**
- WETLANDS
  - LARC 8152 Wetland/Riparian Design Studio 4
  - LARC 8552 Research Design Methods 3
  - LARC 8752 Wetland Ecology 3
  - Elective 3

**Term Credit Hours** 13

**Year 3**

**Fall**
- PUBLIC LANDS
  - LARC 8153 Public Lands Design Studio 4
  - LARC 8355 Capstone Seminar 1
  - LARC 8755 Native Plant Communities 3
  - LARC 8889 Restoration Monitoring Workshop 3

**Term Credit Hours** 11

**Spring**
- LARC 8644 Professional Practice 3
- LARC 9995 Capstone Restoration Design Project 3

**Term Credit Hours** 6

**Total Credit Hours**: 70

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1 These three courses (8 credits) are co-requisites and must be taken together.
2 These two courses (7 credits) are co-requisites and must be taken together.
3 Students working toward the first professional degree select one 3-credit elective in consultation with a Landscape Architecture advisor.

**Internship**: All students work with a local or regional client as part of the Capstone Course (LARC 9995 Capstone Restoration Design Project).

**Culminating Events**

**Capstone Course**: All students must complete LARC 9995 Capstone Restoration Design Project, which involves undertaking a project in cooperation with a local or regional client. Students synthesize the knowledge gained from previous courses in developing an integrated approach appropriate to their project.

**Contacts**

**Program Web Address**: https://tyler.temple.edu/programs/landscape-architecture-horticulture

**Department Information**
- Dept. of Landscape Architecture and Horticulture
- 201 Dixon Hall
- 580 Meetinghouse Road
- Ambler, PA 19002-3999
- la-hort@temple.edu
- 267-468-8181

**Mailing Address for Official Transcripts**: Tyler School of Art Graduate Admissions Office 2001 N. 13th Street Philadelphia, PA 19122-6016

**Submission Address for All Other Application Materials**: https://apply.temple.edu/Tyler/

**Department Contacts**
- **Chairperson**: Sasha Eisenman eisenman@temple.edu 267-468-8168
- **Landscape Architecture Program Head**: Pauline Hurley-Kurtz phurleyk@temple.edu 267-468-8187

**Graduate Certificate: Sustainable Community Planning**

TYLER SCHOOL OF ART (http://tyler.temple.edu/#/prospective)

DIVISION OF ARCHITECTURE AND ENVIRONMENTAL DESIGN

**About the Certificate**

The graduate certificate in Sustainable Community Planning is available to non-matriculated students and students in other Temple University graduate programs, with the approval of their graduate advisor. The courses introduce students to the broad range of issues and topics relevant to planning for the sustainable development of our cities and regions. Elective courses provide the opportunity to deepen knowledge...
and training in specific areas of sustainability and environmental planning. Undertaking the graduate certificate in Sustainable Community Planning allows students to:

- understand the discourse of theory and practice of sustainable development at the local, regional, and global levels;
- develop indicators to monitor and evaluate the sustainability of site, community, and regional actions, plans, and designs;
- recognize models of sustainability and know how to use such models to inform their professional practice; and
- understand how to incorporate sustainability principles into planning practice to address the interrelationships between social, economic, and environmental factors.

This certificate meets the needs of public and private sector employees who work to improve the sustainability of neighborhoods, cities and regions and to address the adverse impacts of climate change without academic degrees in planning.

**Campus Location:** Main and Center City

**Full-Time/Part-Time Status:** The graduate certificate can be completed on a part-time basis.

**Non-Matriculated Student Policy:** To register for certificate courses as a non-matriculated student, please visit Tyler School of Art’s Non-Matriculating Students webpage found at https://tyler.temple.edu/non-matriculating-students.

**Admission Requirements and Deadlines**

**Bachelor’s Degree in Discipline/Related Discipline:** All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

**Certificate Requirements**

**Number of Credits Required to Complete the Certificate:** 12, plus a prerequisite course in Environmental Planning

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTRP 5256</td>
<td>Sustainable Community Design and Development</td>
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<tr>
<td>CTRP 8276</td>
<td>Regional Development</td>
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<table>
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<td>CTRP 8155</td>
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<td>CTRP 8156</td>
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<td>CTRP 8255</td>
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<td>CTRP 8257</td>
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<td>CTRP 8266</td>
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<td>CTRP 8355</td>
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<tr>
<td>CTRP 8476</td>
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<tr>
<td>CTRP 8755</td>
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</tbody>
</table>

**Total Credit Hours** 12

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1 Students matriculated in the M.S. in City and Regional Planning program may elect to take the certificate courses as a transcripted concentration within the M.S. degree. Other graduate students matriculated at Temple University may take certificate classes as electives for their program with the approval of their program advisor.

2 The prerequisite in Environmental Planning may be taken concurrently with the required courses for the certificate. Students complete this prerequisite by taking CTRP 2213 Environmental Planning (3 s.h.) or CTRP 8213 Environmental Planning (3 s.h.); by demonstrating that comparable undergraduate or graduate coursework has already been completed; or through self-study that achieves the stated course competencies of CTRP 2213 or CTRP 8213.

3 Students may substitute for an elective a relevant 3-credit CTRP graduate course selected in consultation with a department advisor or chair.

**Contacts**

**Certificate Program Web Address:**
https://tyler.temple.edu/programs/planning-community-development/degree

**Department Information:**
Dept. of Planning and Community Development
Tyler School of Art
2001 N. 13th Street
Philadelphia, PA 19122-6016
planning@temple.edu
267-468-8300

**Department Contacts:**

**Graduate Program Head:**
Jeffrey P. Doshna, Ph.D., AICP
doshna@temple.edu
215-204-1213

**Chairperson:**
Jeffrey P. Doshna, Ph.D., AICP
doshna@temple.edu
215-204-1213

**Graduate Certificate:**

**Transportation Planning**

**About the Certificate**

The graduate certificate in Transportation Planning is available to non-matriculated students and students in other Temple University graduate programs, with the approval of their graduate advisor. The courses introduce the broad range of issues and topics relevant to transportation planning and the specific relationships between transportation planning and land use planning. Through elective courses, the certificate also provides the opportunity for students to deepen knowledge and training in specific areas of transportation planning. Undertaking the graduate certificate in Transportation Planning allows students to develop:
• knowledge of the key contemporary transportation and travel behavior challenges facing transportation planners and engineers;
• critical thinking skills to address these challenges and analyze important debates in the field; and
• familiarity with and basic competence in transportation planning methodologies.

This certificate meets the needs of public and private sector employees who work in the field of transportation planning without academic degrees in transportation planning or transportation engineering.

Campus Location: Main and Center City

Full-Time/Part-Time Status: The graduate certificate can be completed on a part-time basis.

Non-Matriculated Student Policy: To register for certificate courses as a non-matriculated student, please visit Tyler School of Art’s Non-Matriculating Students webpage found at https://tyler.temple.edu/non-matriculating-students.

Admission Requirements and Deadlines

Bachelor’s Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Certificate Requirements

Number of Credits Required to Complete the Certificate: 12

Required Courses:

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTRP 8655</td>
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Electives

Select three of the following: 2

<table>
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<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>CTRP 8276</td>
<td>Regional Development</td>
</tr>
<tr>
<td>CTRP 8656</td>
<td>Integrated Transportation and Land-Use Planning: Context-Sensitive Design Solutions</td>
</tr>
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<td>CTRP 8657</td>
<td>Non-motorized Transportation Planning</td>
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<td>CTRP 8666</td>
<td>Travel Demand Modeling</td>
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</table>

Total Credit Hours 12

1 Students matriculated in the M.S. in City and Regional Planning program may elect to take the certificate courses as a transcripted concentration within the M.S. degree. Other graduate students matriculated at Temple University may take certificate classes as electives for their program with the approval of their program advisor.

2 Students may substitute for an elective a relevant 3-credit graduate course selected in consultation with a department advisor or chair.

Contacts

Certificate Program Web Address:

https://tyler.temple.edu/programs/planning-community-development/degree
Center for the Performing and Cinematic Arts / Boyer College of Music and Dance

Since its founding as a college of music in 1962, the Boyer College of Music and Dance has grown in size and scope to become a comprehensive college representing academic and artistic excellence in music and dance. Originating as a single department of music education offering vocal instruction at Temple University in 1893, the College is now part of the Center for the Performing and Cinematic Arts at Temple University. Boyer College is located in close proximity to Philadelphia’s historic cultural institutions, including the Kimmel Center for the Performing Arts, Opera Philadelphia, the Pennsylvania Ballet, Philadanco, the Philadelphia Museum of Art, and The Philadelphia Orchestra.

The Boyer College of Music and Dance is committed to nurturing talented students by promoting music and dance as art forms, as media for human expression, and as subjects of intellectual inquiry. Recognizing that all of the arts possess unique powers — to move the spirit, to excite the mind, to reveal the past, to celebrate the future, to instruct, to heal, to foster communication — the College aims to advance music and dance in their myriad, interrelated forms through creative and scholarly work, teaching, and service. Boyer College seeks to provide an inclusive educational community that honors the uniqueness of the individual, values diversity of perspective, and affirms music and dance as central to society and culture.

Students at Boyer College have the unique opportunity to interact with leading composers, conductors, educators, performers, and choreographers while experiencing a challenging and diverse academic curriculum. Graduates have gone on to rewarding careers as music and dance professionals. Many are in leadership positions and teaching at top colleges and universities throughout the country.

Among the many accomplishments of the Boyer College of Music and Dance are:

- Numerous Grammy nominations and awards.
- Selection of Dance MFA student choreography for the American College Dance Festival Association’s biennial National College Dance Festival at the John F. Kennedy Center for the Performing Arts.
- Faculty honors that include Fulbright Scholarships; Guggenheim, National Endowment for the Arts, and Pew Fellowships; and National Dance Education Organization awards.

Programs

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- Dance, M.F.A. (p. 76)
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- Music Performance/Harp, M.M. (p. 136)
- Music Performance/Harpischord, M.M. (p. 139)
- Music Performance/Oboe, M.M. (p. 143)
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- Music Performance/Harp, D.M.A. (p. 208)
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- Music Performance/Tuba, D.M.A. (p. 239)
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- Graduate Certificate: Professional Studies (p. 280)
Graduate Faculty

Charles Abramovic, Professor, Department of Keyboard Studies, Boyer College of Music and Dance; D.M.A., Temple University.

Mitos Andaya, Associate Professor, Department of Vocal Arts, Boyer College of Music and Dance; D.M.A., Temple University.

Christine L. Anderson, Associate Professor, Department of Vocal Arts, Boyer College of Music and Dance; D.M.A., University of Cincinnati College-Conservatory of Music.

Beth Bolton, Associate Professor, Department of Music Education and Music Therapy, Boyer College of Music and Dance; Ph.D., Temple University.

Karen E. Bond, Associate Professor, Department of Dance, Boyer College of Music and Dance; Ph.D., Temple University.

Darlene M. Brooks, Associate Professor, Department of Music Education and Music Therapy, Boyer College of Music and Dance; Ph.D., Temple University.

Matthew Brunner, Assistant Professor (Teaching/Instructional), Department of Instrumental Studies, Boyer College of Music and Dance; D.M.A., Indiana University.

Sara Buechner, Associate Professor, Department of Keyboard Studies, Boyer College of Music and Dance; D.M.A., Manhattan School of Music.

Nathan Buonviri, Associate Professor, Department of Music Education and Music Therapy, Boyer College of Music and Dance; Ph.D., Temple University.

David B. Cannata, Associate Professor, Department of Music Studies, Boyer College of Music and Dance; Ph.D., New York University.

Deborah A. Confredo, Professor, Department of Music Education and Music Therapy, Boyer College of Music and Dance; Ph.D., Florida State University.

Andreas Delfs, Professor, Department of Instrumental Studies, Boyer College of Music and Dance; M.M., The Juilliard School.

Marcus DeLoach, Assistant Professor, Department of Vocal Arts, Boyer College of Music and Dance; D.M.A., Rice University.

Cheryl L. Dileo, Professor, Department of Music Education and Music Therapy, Boyer College of Music and Dance; Ph.D., Louisiana State University.

Rollo A. Dilworth, Professor, Department of Music Education and Music Therapy, Boyer College of Music and Dance; D.M.A., Northwestern University.

Sherril Dodds, Professor, Department of Dance, Boyer College of Music and Dance; Ph.D., University of Surrey.

Edward Flanagan, Associate Professor, Department of Music Studies, Boyer College of Music and Dance; Ph.D., Temple University.

Cynthia J. Folio, Professor, Department of Music Studies, Boyer College of Music and Dance; Ph.D., Eastman School of Music.

Mark Franko, Professor, Department of Dance, Boyer College of Music and Dance; Ph.D., Columbia University.

Shana Goldin-Perschbacher, Assistant Professor, Department of Music Studies, Boyer College of Music and Dance; Ph.D., University of Virginia.

Matthew J. Greenbaum, Professor, Department of Music Studies, Boyer College of Music and Dance; Ph.D., City University of New York.

Jillian Harris, Associate Professor, Department of Dance, Boyer College of Music and Dance; M.F.A., New York University Tisch School of the Arts.

Lauren E. Katz Rizzo, Assistant Professor, Department of Dance, Boyer College of Music and Dance; Ph.D., Temple University.

Michael Klein, Professor, Department of Music Studies, Boyer College of Music and Dance; Ph.D., State University of New York at Buffalo.

Jan L. Krzywicki, Professor, Department of Music Studies, Boyer College of Music and Dance; M.M., Philadelphia Musical Academy.

Edward D. Latham, Associate Professor, Department of Music Studies, Boyer College of Music and Dance; Ph.D., Yale University.

Kathryn Leemhuis, Assistant Professor, Department of Vocal Arts, Boyer College of Music and Dance; D.M.A., University of Cincinnati College-Conservatory of Music.

Kun-Yang Lin, Professor, Department of Dance, Boyer College of Music and Dance; M.F.A., New York University Tisch School of the Arts.

Joyce Z. Lindorff, Professor, Department of Keyboard Studies, Boyer College of Music and Dance; D.M.A., The Juilliard School.

Wendy Magee, Professor, Department of Music Education and Music Therapy, Boyer College of Music and Dance; Ph.D., University of Sheffield.

Noriko Manabe, Associate Professor, Department of Music Studies, Boyer College of Music and Dance; Ph.D., Graduate Center, City University of New York.

Philip R. O'Banion, Assistant Professor, Department of Instrumental Studies, Boyer College of Music and Dance; M.M., University of Colorado.

Richard D. Oatts, Professor, Department of Music Studies, Boyer College of Music and Dance.

Lambert T. Orkis, Professor, Department of Keyboard Studies, Boyer College of Music and Dance; M.M., Temple University.

Elizabeth C. Parker, Associate Professor, Department of Music Education and Music Therapy, Boyer College of Music and Dance; Ph.D., University of Nebraska-Lincoln.

Paul Rardin, Associate Professor, Department of Vocal Arts, Boyer College of Music and Dance; D.M.A., University of Michigan.

Alison M. Reynolds, Associate Professor, Department of Music Education and Music Therapy, Boyer College of Music and Dance; Ph.D., Temple University.

Eduard Schmieder, Professor, Department of Instrumental Studies, Boyer College of Music and Dance.
Choral Conducting, M.M.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program

The Department of Vocal Arts offers a program of study leading to the Master of Music in Choral Conducting. Graduate majors in the department have the opportunity to conduct a number of resident ensembles, as well as present their own recitals with the Graduate Conductors Chorus.

Time Limit for Degree Completion: 6 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: With the approval of the major advisor, students may elect to take up to 6 graduate credits outside the field of music.

Accreditation: This degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: The degree is intended to prepare students for successful careers in choral music by providing the highest level of training in the many skills required for the choral conductor, including technical, theoretical, analytical, historical, linguistic, keyboard, and vocal skills. The department prepares students to become teachers and conductors striving toward the highest possible artistic excellence.

Job Prospects: The program prepares musicians for either professional activity or doctoral study.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission of the department chair and the Associate Dean.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/ internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/ gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:

Fall: December 1

Applications are processed as they arrive up to the deadline date.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

Bachelor's Degree in Discipline/Related Discipline: A degree in music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:

TOEFL: 79 iBT or 550 PBT minimum

Resume: Current resume required.

Transfer Credit: A student who wishes to transfer credit should speak with her/his academic advisor and obtain a "Request for Transfer of Graduate Credit" form, found in TUportal under the Tools tab within “University Forms.” Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants,
specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College’s Optimum Enrollment Policy. This policy may preclude the admission of any student who meets the minimum requirements.

**Program Requirements**

**General Program Requirements:**

_**Number of Credits Required Beyond the Baccalaureate:** _32

**Required Courses:**

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<tr>
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<th>Credit Hours</th>
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<tbody>
<tr>
<td>MUSC 8300</td>
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<tr>
<td>MUSC 8351</td>
<td>Choral Conducting Seminar I</td>
<td>2</td>
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<tr>
<td>MUSC 8352</td>
<td>Choral Conducting Seminar II</td>
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<td>MUSC 8353</td>
<td>Choral Conducting Seminar III</td>
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<tr>
<td>MUSC 8354</td>
<td>Choral Conducting Seminar IV</td>
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<td>MUSC 8356</td>
<td>Choral Literature: Early Period</td>
<td>2</td>
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<td>MUSC 8357</td>
<td>Choral Literature: Classic and Romantic Periods</td>
<td>2</td>
</tr>
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<td>MUSC 8358</td>
<td>Choral Literature: Baroque Period</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 8359</td>
<td>Choral Literature: 1910 to the Present</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 8384</td>
<td>Private Lesson: Choral Conducting Major (2 terms)</td>
<td>2</td>
</tr>
<tr>
<td>MUST 8701</td>
<td>Research in Music</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8742</td>
<td>Seminar in Theoretical Analysis</td>
<td>3</td>
</tr>
<tr>
<td>or MUST 8746 Seminar in Stylistic Analysis</td>
<td>3</td>
<td></td>
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<tr>
<td>Electives</td>
<td></td>
<td>6</td>
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<tr>
<td><strong>Total Credit Hours</strong></td>
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<td><strong>32</strong></td>
</tr>
</tbody>
</table>

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1 Select from Music, Music Education, Music Studies, or other graduate departments. Advisor approval required.

**Additional Requirements:**

**Diagnostic Examinations:**

All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://exami.com). Students are responsible for all fees.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a “Credit / No Credit” basis, and the official university transcript will indicate “CR” (for “Credit,” meaning that the deficiency has been satisfied) or “NC” (for “No Credit,” meaning that the deficiency has not been satisfied). Students must have a “B-” or better average in any remedial course or section to earn the grade of “Credit” and to satisfy the requirement. Students who earn a grade of “NC” (that is, having a class average below “B-”) must retake that course or section until an average of “B-” or higher is achieved and a grade of “CR” is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remedial coursework during their first academic year of study. An exception may be granted for part-time students. Master of Music students may neither schedule graduation recitals nor take final comprehensive master’s examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

**A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills**

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUST 5001</td>
<td>Diatonic Harm. Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5002</td>
<td>Chromatic Harm. Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5003</td>
<td>Counterpoint Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5004</td>
<td>Grad Aural Theory Review</td>
<td>3</td>
</tr>
</tbody>
</table>

**B. Diagnostic Examination in Music History**

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitulated according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

**C. Conditions for Exemption from Diagnostic Examinations**

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
- received grades of “B-” or better in every undergraduate course taken in each individual examination area to be waived.

**Proficiencies in Voice, Piano, and Musicianship:**

Proficiencies are evaluated by the department in the first term of graduate study.

**Professional Development Policy:**

In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give
impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:
1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of academic terms. Students must arrange their schedules to accommodate this requirement.
2. Participation: Master's degree candidates in wind, brass, and percussion instruments must be available for ensemble assignments at the discretion of the department chair, including participation beyond curricular requirements.
3. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

Independent Study Courses: Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval is granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects is granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:
All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:
Graduate students in non-performing curricula may take up to six credits of applied study toward the degree with the permission of the major advisor. Such non-required lessons may be taken only if the student can pass the normal graduate-level performing audition expected of performance majors. In this event, a fee of $200, not covered by tuition remission, is charged.

Alternately, a graduate student, regardless of major, with a demonstrable performing proficiency that may not meet the more rigorous requirements of a graduate-level performing audition, may, by audition, qualify to take two credits of applied study per term for graduate credit. These courses carry a fee of $400 plus tuition and may be applied to the non-performing curriculum for degree credit up to six credits with the approval of the major advisor. Tuition remission may not be used to cover the private lesson fee.

Incompletes:
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:
Comprehensive Examination:
All candidates for the Master of Music degree are required to take a comprehensive examination in the major area which is designed and given by the department in the final term of coursework. With this final comprehensive spoken examination, each student spends one hour with the entire choral faculty answering questions that are mostly from the major field but also often include other areas of music, art, history, theory, etc. Often, but not always, examples are played at the piano for historic placement and identification. The students prepare for the exam mostly through a thorough review of eight notebooks, four each from Choral Literature and Choral Conducting Seminar. The exam is scheduled by the department and graded by all of the department's graduate faculty.

Public Recitals:
Choral Conductors present two recitals in the second year of study, utilizing the Recital Chorus and the Graduate Conductors Chorus. One public recital is required in the Fall term (MUSC 8353) and one in the Spring term (MUSC 8354).

Graduation recitals are typically one hour in length, presented on-campus in either Rock Hall or Klein Recital Hall, and adjudicated by three full-time music faculty members. The student must show evidence through Temple University transcript records of having taken private lessons up to the time of the graduation recital.

Contacts
Department Web Address:
http://www.temple.edu/boyer/academicprograms/choral-activities/

Department Information:
Dept. of Vocal Arts
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
choirs@temple.edu
215-204-8304

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Dr. Christine Anderson
christine.anderson@temple.edu
215-204-8375
Chairperson:
Dr. Paul Rardin
rardin@temple.edu
215-204-4742

Collaborative Piano and Chamber Music, M.M.


About the Program

The master's degree in Collaborative Piano and Chamber Music is designed to prepare pianists to play in small ensembles and to accompany soloists.

Time Limit for Degree Completion: 6 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Accreditation: This degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Students are trained to:

- listen to the many events occurring simultaneously in ensembles;
- learn how to conduct rehearsals;
- appreciate how text can affect musical performance;
- distinguish between the many different kinds of ensemble participation depending on the media; and
- develop their pianistic skills in order to meet the demands of advanced chamber and accompanied works.

Job Prospects: The program prepares musicians for either professional activity or doctoral study.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/ internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:
Fall: March 1
Spring: November 1

Applications are processed as they arrive. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

Bachelor's Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:
TOEFL: 75 iBT or 537 PBT minimum

Audition: See www.temple.edu/boyer for audition repertoire requirements.

Resume: Current resume required.

Transfer Credit: A student who wishes to transfer credit should speak with her/his academic advisor and complete a "Request for Transfer of Graduate Credit" form, found in TPortal under the Tools tab within "University Forms." Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

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<td>MUSC 8416</td>
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<tr>
<td>MUSC 8417</td>
<td>Piano for Accompanying and Chamber Music Majors</td>
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<td>MUSC 8418</td>
<td>Piano for Accompanying and Chamber Music Majors</td>
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<tr>
<td>MUSC 8419</td>
<td>Piano for Accompanying and Chamber Music Majors</td>
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</tr>
<tr>
<td>MUSC 8473</td>
<td>Recital Accompanying</td>
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</tr>
<tr>
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<td>Recital Accompanying</td>
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<td>MUSC 8475</td>
<td>Studio Accompanying (2 terms)</td>
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<tr>
<td>MUSC 8477</td>
<td>Baroque Keyboard Performance Practice</td>
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<td>MUSC 8478</td>
<td>Classical Keyboard Performance Practice</td>
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<td>MUSC 8510</td>
<td>Instrumental Ensemble (4 terms)</td>
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<td>MUST 8701</td>
<td>Research in Music</td>
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</tr>
<tr>
<td>MUST 8742</td>
<td>Seminar in Theoretical Analysis</td>
<td>3</td>
</tr>
<tr>
<td>or MUST 8746 Seminar in Stylistic Analysis</td>
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</tr>
</tbody>
</table>

Electives ³ 3

Total Credit Hours 30

³ Select from Music, Music Education, Music Studies, or other graduate departments. Advisor approval required.

Additional Requirements:

Diagnostic Examinations:
All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a "Credit / No Credit" basis, and the official university transcript will indicate "CR" (for "Credit," meaning that the deficiency has been satisfied) or "NC" (for "No Credit," meaning that the deficiency has not been satisfied). Students must have a "B-" or better average in any remedial course or section to earn the grade of "Credit" and to satisfy the requirement. Students who earn a grade of "NC" (that is, having a class average below "B-") must retake that course or section until an average of "B-" or higher is achieved and a grade of "CR" is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remediation coursework during their first academic year of study. An exception may be granted for part-time students. Master of Music students may neither schedule graduation recitals nor take final comprehensive master’s examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>MUST 5001</td>
<td>Diatonic Harm. Review</td>
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</tr>
<tr>
<td>MUST 5002</td>
<td>Chromatic Harm. Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5003</td>
<td>Counterpoint Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5004</td>
<td>Grad Aural Theory Review</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

• matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
• received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

Professional Development Policy:
In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:
1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of academic terms. Students must arrange their schedules to accommodate this requirement.

2. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

Independent Study Courses:
Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:
All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:
Weekly one-hour private lessons are provided for all matriculated master's and doctoral performance majors in good standing, provided at least three additional credits of programmatically required graduate-level study are taken simultaneously. A $250 per semester lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

Private applied lessons beyond the four-semester requirement currently in effect for graduate performance students may be extended with the permission of the jury, department chair, and the Associate Dean or Dean of the Boyer College of Music and Dance.

Recital Extension:
Students withdrawing from the recital requirement during the recital semester will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each semester until the recital has been presented. This course will be offered on a "Credit/No Credit" basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of "CR." Credit derived from Recital Extension will not be counted toward degree requirements.

1. Recital Extension Fees: Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.

2. Exceptions to Recital Extension:

a. Students who perform their recitals during the first three weeks of the Spring semester are not required to register for Recital Extension that semester.

b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall semester. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall semester, regardless of the date, without also registering for the Fall semester of Recital Extension.

3. Failure to Present Recital: The degree status of students who are unable to present a recital after one semester of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one semester of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

Incompletes:
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:
Comprehensive Final Project:
All candidates for the Master of Music degree must submit a list of all repertoire studied with their studio teacher(s) while enrolled in the M.M. program. Students choose two stylistically contrasting pieces from their final recital program. (Students enrolled in programs without a recital requirement, such as Opera Coaching, choose two contrasting works studied with their assigned studio teacher.) Students choose to give either an oral presentation or submit a written document that addresses at least several of the following topics:

- Form and harmonic language of the piece
- Historical background of the work
- Aspects of the composer's style
- Relationship to other keyboard works by the composer
- Performance practice considerations
- Specific technical problems and their solutions
- Other relevant information about the piece

The goal of the presentation or paper is to demonstrate cumulative knowledge and skills gained during the course of study at the master’s level. Courses taken in research, theory, history, pedagogy, and performance practice can inform the discussion of the particular works chosen by the student.

If the student selects the oral option, the presentation is scheduled during end-of-semester juries. At least two representatives from the graduate faculty in the Department of Keyboard Instruction adjudicate the oral presentation. The session should last approximately 20 minutes with some extra time for questions from the faculty members following the presentation. Students can perform small sections of the work if germane to their discussion. Lecture notes with cited sources for information should be submitted to the Department of Keyboard Instruction no later than ten days before juries.

The written document, if chosen, should be a research-quality paper of approximately 10 pages, double-spaced, and include appropriate references. This should be submitted to the Department of Keyboard Instruction no later than April 1 for a May graduation or November 15 for a January graduation. At least two graduate faculty members from the
Department of Keyboard Instruction read the paper and confer about the final decision. Students must follow the guidelines for academic honesty found in the Graduate Bulletin.

Each reader grades the project as either “pass” or “fail.” If the student fails, s/he is not allowed to graduate at the end of that semester. Another document may be submitted after suggestions for improvement by the Department of Keyboard Instruction faculty, or another oral presentation is arranged and graded as before. If the student fails a second time, s/he is dismissed from the degree program.

Recital Accompaniment:
Piano Accompanying/Chamber Music curriculum candidates must accompany one student recital in the first semester of study and must accompany two full senior or master’s recitals in each of the following three semesters. In addition, performance of a full chamber music work is required each of the four semesters. Graduation recitals are typically one hour in length; presented on-campus in either Rock Hall or Klein Recital Hall; and adjudicated by three full-time music faculty members.

Contacts
Department Web Address:
http://www.temple.edu/boyer/academicprograms/keyboard-studies/

Department Information:
Dept. of Keyboard Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
charles.abramovic@temple.edu
215-204-7388

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Dr. Charles Abramovic
charles.abramovic@temple.edu
215-204-7388

Chairperson:
Dr. Charles Abramovic
charles.abramovic@temple.edu
215-204-7388

Collaborative Piano and Opera Coaching, M.M.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program
The master’s degree in Collaborative Piano and Opera Coaching is designed for pianists who wish to make accompanying and opera coaching the focus of their professional lives. Students learn about the many skills required of opera singers, including diction, foreign languages, vocal technique, stage movement, and acting. Additionally, students learn to negotiate the often pianistic piano reductions that are part of this scene. Finally, students learn how to conduct rehearsals in a professional setting, and become aware of the special problems encountered by singers.

Time Limit for Degree Completion: 6 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Accreditation: This degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Study focuses on performance of the major instrument and academic support areas in music.

Job Prospects: The program prepares musicians for either professional activity or doctoral study.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer’s website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master’s students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Application Requirements and Deadlines

Application Deadline:
Fall: March 1
Spring: November 1

Applications are processed as they arrive. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2
From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant’s abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

Bachelor’s Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:
TOEFL: 75 iBT or 537 PBT minimum

Audition: See www.temple.edu/boyer for audition repertoire requirements.

Resume: Current resume required.

Transfer Credit: A student who wishes to transfer credit should speak with her/his academic advisor and complete a “Request for Transfer of Graduate Credit” form, found in TUPortal under the Tools tab within “University Forms.” Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College’s Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>MUSC 8212</td>
<td>Coaching Skills (4 terms)</td>
<td>8</td>
</tr>
<tr>
<td>MUSC 8416</td>
<td>Piano for Accompanying and Chamber Music Majors</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 8417</td>
<td>Piano for Accompanying and Chamber Music Majors</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 8418</td>
<td>Piano for Accompanying and Chamber Music Majors</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 8419</td>
<td>Piano for Accompanying and Chamber Music Majors</td>
<td>2</td>
</tr>
</tbody>
</table>

MUSC 8471 Recital Accompanying 1
MUSC 8472 Recital Accompanying 1
MUSC 8473 Recital Accompanying 1
MUSC 8474 Recital Accompanying 1
MUST 8701 Research in Music 3
MUST 8708 History of Opera 2
MUST 8709 History of Opera 2
MUST 8742 Seminar in Theoretical Analysis 3
or MUST 8746 Seminar in Stylistic Analysis

Total Credit Hours 30

Additional Requirements:
Diagnostic Examinations:
All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a "Credit / No Credit" basis, and the official university transcript will indicate "CR" (for "Credit," meaning that the deficiency has been satisfied) or "NC" (for "No Credit," meaning that the deficiency has not been satisfied). Students must have a “B-" or better average in any remedial course or section to earn the grade of "Credit" and to satisfy the requirement. Students who earn a grade of “NC” (that is, having a class average below “B-”) must retake that course or section until an average of “B-” or higher is achieved and a grade of "CR" is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remediation coursework during their first academic year of study. An exception may be granted for part-time students. Master of Music students may neither schedule graduation recitals nor take final comprehensive master’s examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>MUST 5001</td>
<td>Diatonic Harm. Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5002</td>
<td>Chromatic Harm. Review</td>
<td>1</td>
</tr>
</tbody>
</table>
B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
- received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

Professional Development Policy:

In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:

1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.

2. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

Independent Study Courses:

Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:

All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:

Weekly one-hour private lessons are provided for all matriculated master's and doctoral performance majors in good standing, provided at least three additional credits of programmatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

Private applied lessons beyond the four-term requirement currently in effect for graduate performance students may be extended with the permission of the jury, department chair, and the Associate Dean or Dean of the Boyer College of Music and Dance.

Recital Extension:

Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a "Credit/No Credit" basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of "CR." Credit derived from Recital Extension will not be counted toward degree requirements.

1. Recital Extension Fees: Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University sponsored financial aid do not cover the Recital Extension fee.

2. Exceptions to Recital Extension:
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer term may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.

3. Failure to Present Recital: The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

Incompletes:

All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:
Comprehensive Final Project:
All candidates for the Master of Music degree must submit a list of all repertoire studied with their studio teacher(s) while enrolled in the M.M. program. Students choose two stylistically contrasting pieces from their final recital program. (Students enrolled in programs without a recital requirement, such as Opera Coaching, choose two contrasting works studied with their assigned studio teacher.) Students choose to give either an oral presentation or submit a written document that addresses at least several of the following topics:

- Form and harmonic language of the piece
- Historical background of the work
- Aspects of the composer’s style
- Relationship to other keyboard works by the composer
- Performance practice considerations
- Specific technical problems and their solutions
- Other relevant information about the piece

The goal of the presentation or paper is to demonstrate cumulative knowledge and skills gained during the course of study at the master’s level. Courses taken in research, theory, history, pedagogy, and performance practice can inform the discussion of the particular works chosen by the student.

If the student selects the oral option, the presentation is scheduled during end-of-term juries. At least two representatives from the graduate faculty in the Department of Keyboard Instruction adjudicate the oral presentation. The session should last approximately 20 minutes with some extra time for questions from the faculty members following the presentation. Students can perform small sections of the work if germane to their discussion. Lecture notes with cited sources for information should be submitted to the Department of Keyboard Instruction no later than ten days before juries.

The written document, if chosen, should be a research-quality paper of approximately 10 pages, double-spaced, and include appropriate references. This should be submitted to the Department of Keyboard Instruction no later than April 1 for a May graduation or November 15 for a January graduation. At least two graduate faculty members from the Department of Keyboard Instruction read the paper and confer about the final decision. Students must follow the guidelines for academic honesty found in the Graduate Bulletin.

Each reader grades the project as either “pass” or “fail.” If the student fails, s/he is not allowed to graduate at the end of that term. Another document may be submitted after suggestions for improvement by the Department of Keyboard Instruction faculty, or another oral presentation is arranged and graded as before. If the student fails a second time, s/he is dismissed from the degree program.

Recital Accompaniment:
Students must accompany one vocal recital in the first term and at least two in succeeding terms for a total of six required recital accompaniments. Students must also have participated in preparing singers for opera productions and, in some cases, conducted opera rehearsals. Graduation recitals are typically one hour in length; presented on-campus in either Rock Hall or Klein Recital Hall; and adjudicated by three full-time music faculty members.

Contacts
Department Web Address:
http://www.temple.edu/boyer/academicprograms/keyboard-studies/

Department Information:
Dept. of Keyboard Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
charles.abramovic@temple.edu
215-204-7388

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Dr. Charles Abramovic
charles.abramovic@temple.edu
215-204-7388

Chairperson:
Dr. Charles Abramovic
charles.abramovic@temple.edu
215-204-7388

Dance, M.A.
Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program
The Dance Department offers programs of study leading to the Master of Arts, Master of Fine Arts, and Doctor of Philosophy degrees. All students are expected to develop a command of the discipline of dance, as a performing art and as both subject and medium of inquiry. The department’s mission places high value on the role of dance in a pluralistic, multicultural society.

The M.A. in Dance is a research-centered degree that allows students to follow and integrate strands in cultural, creative and educational studies of dance. Through coursework blending experiential and theoretical inquiry and an in-depth thesis project, the program prepares students for doctoral education in dance and professional development in research, writing, creative process, and pedagogy.

Time Limit for Degree Completion: 4 years

Campus Location: Main. All department courses are offered on Main Campus, but students may take out-of-department credits on another campus.
Full-Time/Part-Time Status: Students complete the degree program through classes offered before 4:30 p.m. The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: The program encourages interdisciplinary coursework, research, and interactions among faculty and students with interests in African American Studies, Anthropology, Education, History, Jewish Studies, Media Arts, Music, Philosophy, Sociology, Theater Arts, Women’s Studies, and the like.

Accreditation: The M.A. in Dance is pending plan approval by the National Association of Schools of Dance (NASD).

Areas of Specialization: The M.A. in Dance is a research-centered degree that allows students to follow and integrate strands in cultural, creative, and educational studies of dance. Through coursework blending experiential and theoretical inquiry and an in-depth thesis project, the program prepares students for doctoral education in dance. It also provides master’s level professional development in research, writing, the creative process, and pedagogy.

Job Prospects: Graduates perform and choreograph with companies throughout the world, teach at all levels of education, serve as arts administrators and policymakers for the arts, and publish extensively.

Non-Matriculated Student Policy: Non-matriculated students are able to take technique classes and some core coursework with permission of the instructor and the department chair. If accepted into the program, those courses (up to a maximum of 9 credits) may be applied toward the degree program.

Financing Opportunities: Teaching Assistantships (TAs), Research Assistantships (RAs), and Academic Internships (AIs) are available. Teaching responsibilities usually include teaching university general education courses. On occasion, TAs are assigned to teach B.F.A. Dance courses for which they are qualified. This award includes a monthly stipend, book allowance, and tuition remission. Assistantships are generally awarded for a minimum of one year. The TA/RA/Al application is part of the supplemental dance application for admission. Continuing students who have not held an assistantship also submit a written application in the term prior to commencement of the award.

Admission Requirements and Deadlines

Application Deadline:

Summer II: January 11

All department and university application materials must be received by the Dance Department. After acceptance at the department level, final review of all application materials is made by the Boyer College of Music and Dance.

A required supplemental application can be obtained at www.temple.edu/boyer/admissions/graduate-admissions/.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained from qualified representatives of academic or professional communities in dance.

Coursework Required for Admission Consideration: Applicants should have an undergraduate GPA of 3.0, and an undergraduate degree in Dance or equivalent professional experience. Depending on the individual’s professional goals, certain prerequisite courses may be assigned to fill in any gaps in preparation.

Bachelor’s Degree in Discipline/Related Discipline: A baccalaureate degree is required.

Statement of Goals: In 3 to 5 typed pages, address how your experience and education have prepared you for advanced study in dance and how the degree will support your professional goals.

Standardized Test Scores:

TOEFL: 79 iBT or 550 PBT minimum

Resume: A current resume detailing experience in dance, art, education, scholarship, and/or public leadership is required.

Writing Sample: A recent scholarly or academic research paper must be submitted as a writing sample.

Transfer Credit: Graduate credits from an accredited institution may be transferred into the M.A. in Dance program. Transfer credits must be approved by the Graduate Coordinator, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

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<tr>
<td>DANC 8859</td>
<td>Dancing the City</td>
<td>3</td>
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<tr>
<td>DANC 8861</td>
<td>Dancing Self in Community</td>
<td>3</td>
</tr>
<tr>
<td>DANC 8862</td>
<td>Embodied Craft</td>
<td>3</td>
</tr>
<tr>
<td>DANC 8872</td>
<td>Educating Dance</td>
<td>3</td>
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<tr>
<td>DANC 8873</td>
<td>Concepts of Culture</td>
<td>3</td>
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<tr>
<td>DANC 9801</td>
<td>Research Methods in Dance</td>
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Electives

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<tr>
<th>Code</th>
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<tr>
<td>DANC 8808</td>
<td>Corporeal Improvisation (or a Technique course)</td>
<td>2</td>
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<tr>
<td>Other Dance Electives</td>
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<td></td>
</tr>
</tbody>
</table>

Non-Didactic Course

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>DANC 9996</td>
<td>Master’s Thesis in Dance</td>
<td>4</td>
</tr>
</tbody>
</table>

Total Credit Hours 30

1 Although no credit is earned, attendance is mandatory at the Graduate Tutorial held every Tuesday evening.

Culminating Events:

Master’s Thesis:

The M.A. thesis is a substantial research project developed over three terms, culminating in a written thesis of 20,000 words. During Spring term of the first year of full-time study, students carry out bibliographic research, develop an annotated bibliography, and create a thesis proposal in a mentored seminar setting. A thesis advisor, with whom the student works until the completion of the project, is then determined.
Prior to graduation, students make a formal presentation of their thesis research for dance faculty, students, and invited guests. Detailed guidelines for the M.A. thesis process and evaluation are found in the Graduate Handbook.

**Contacts**

**Department Web Address:**
http://www.temple.edu/boyer/academicprograms/dance/

**Department Information:**
Dept. of Dance
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
1700 N. Broad Street, Suite 309
Philadelphia, PA 19122-0843
dance@temple.edu
215-204-8710

**Submission Address for Application Materials:**
https://apply.temple.edu/Boyer/

**Department Contacts:**

- **Admissions:**
  Norma Porter
  norma.porter@temple.edu
  215-204-0533

- **Interim Coordinator of Graduate Studies:**
  Dr. Karen Bond
  karen.bond@temple.edu
  215-204-6280

- **Chairperson:**
  Dr. Karen Bond
  karen.bond@temple.edu
  215-204-6280

**Dance, M.F.A.**

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

**About the Program**

The Dance Department offers programs of study leading to the Master of Arts, Master of Fine Arts, and Doctor of Philosophy degrees. All students are expected to develop a command of the discipline of dance, as a performing art and as both subject and medium of inquiry. The department’s mission places high value on the role of dance in a pluralistic, multicultural society.

The M.F.A. in Dance develops choreographers and dance artists who are in command of their idiom as a basis for meaningful aesthetic investigation, embodied research, and critical inquiry. The program fosters skilled dance making; sensitivity to personal artistic qualities and sources; openness to interdisciplinary perspectives; and awareness of the social, political, and historical implications of dance. The M.F.A. seeks to align itself with the evolving aesthetics and pedagogies of professional dance practice, to introduce students to contemporary developments in the field of dance scholarship, and to prepare students to enter the competitive job market.

The emphasis of the M.F.A. in Dance is on providing resources that allow each student to take responsibility for their artistic development and vision. As choreographers, students immerse themselves in studying the craft and persuasion of their art form, study the historical and cultural dimensions of dance, experience a spectrum of valid approaches to issues of communication, and continuously challenge their own artistic viewpoints and directions. As performers, students are expected to engage themselves fully and with personal integrity in the creation, interpretation, and presentation of dance works; develop technically and artistically in order to fulfill the varying demands of dance as a performing art; and participate fully in the choreographic process. The M.F.A. in Dance also supports the vision of those students who aspire to work in higher education and other education and community contexts as artist-educators.

**Time Limit for Degree Completion:** 4 years

**Campus Location:** Main. All department courses are offered on Main Campus, but students may take out-of-department credits on another campus.

**Full-Time/Part-Time Status:** Students complete the degree program through classes offered before 4:30 p.m.

**Interdisciplinary Study:** The program encourages interdisciplinary coursework, research, and interactions among faculty and students with interests in African American Studies, Anthropology, Education, History, Jewish Studies, Media Arts, Music, Philosophy, Sociology, Theater Arts, Women's Studies, and the like.

**Accreditation:** The M.F.A. in Dance is fully accredited by the National Association of Schools of Dance (NASD).

**Areas of Specialization:** The M.F.A. faculty includes internationally known artists and scholars whose work represents a variety of contemporary approaches to choreography, performance, and theoretical inquiry in dance. The emphasis of the program is choreographic research. In addition, students have requirements in performance, production, dance education, and dance scholarship. An important objective of the M.F.A. program is that each student develop a personal aesthetic that manifests an understanding of her/his place in the world.

**Job Prospects:** Since the focus of the M.F.A. in Dance is choreography, most graduates continue as independent or affiliated choreographers after graduation. In addition, many teach in higher education or perform professionally.

**Non-Matriculated Student Policy:** Non-matriculated students are able to take technique classes and some core coursework with the permission of the instructor and the department chair. If accepted into the program, those courses (up to a maximum of 9 credits) may be applied toward the degree program.

**Financing Opportunities:** Teaching Assistantships (TAs), Research Assistantships (RAs), and Academic Internships (AIs) are available. Teaching responsibilities usually include teaching university general education courses. On occasion, TAs are assigned to teach B.F.A. Dance repertory, technique, or theory courses for which they are qualified. This award includes a monthly stipend, book allowance, and tuition remission. Assistantships are generally awarded for a maximum of two years. The TA/RA/AI application is part of the supplemental
dance application for admission. Continuing students who have not held an assistantship also submit a written application in the term prior to commencement of the award.

All M.F.A. applicants are considered for departmental nomination for a University fellowship. This university-wide scheme is highly competitive, and recipients are selected by the Graduate School.

**Admission Requirements and Deadlines**

**Application Deadline:**

- **Fall:** January 11

All department and university application materials must be received by the Dance Department. After acceptance at the department level, final review of application materials is made by the Boyer College of Music and Dance.

A required supplemental application is obtained at [www.temple.edu/boyer/admissions/graduate-admissions/](http://www.temple.edu/boyer/admissions/graduate-admissions/).

**APPLY ONLINE to this graduate program.**

**Letters of Reference:**

- **Number Required:** 2

  **From Whom:** Letters of recommendation should be obtained from qualified representatives of academic or professional communities in dance.

**Coursework Required for Admission Consideration:** Applicants should have an undergraduate GPA of 3.0 and an undergraduate degree in Dance or equivalent professional experience. Depending on the applicant's professional goals, certain prerequisite courses may be assigned to fill in any gaps in preparation.

**Bachelor's Degree in Discipline/Related Discipline:** A baccalaureate degree is required.

**Statement of Goals:** In 1 to 2 pages, detail your focus and artistic vision in dance. The M.F.A. faculty reviews this document in relation to the audition, choreographic showing, and resume to determine your fit with the M.F.A. program and what the faculty can offer. Curiosity and openness are sought.

**Standardized Test Scores:**

  - TOEFL: 79 iBT or 550 PBT minimum

**Resume:** A resume detailing experience in dance, art, education, scholarship, and/or public leadership is required.

**Transfer Credit:** Graduate credits from an accredited institution may be transferred into the M.F.A. in Dance program. Transfer credits must be approved by the Graduate Coordinator, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 12.

**Program Requirements**

**General Program Requirements:**

- **Number of Credits Required Beyond the Baccalaureate:** 60

  **Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DANC 8812</td>
<td>Performance Environments I: Dance Production</td>
<td>2</td>
</tr>
<tr>
<td>DANC 8867</td>
<td>Educational Inquiry in Dance</td>
<td>3</td>
</tr>
<tr>
<td>DANC 8868</td>
<td>Graduate Seminar</td>
<td>2</td>
</tr>
<tr>
<td>DANC 9801</td>
<td>Research Methods in Dance</td>
<td>3</td>
</tr>
</tbody>
</table>

**Studio/Practicum Courses**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DANC 8806</td>
<td>The Creative Process and the Dance Symbol</td>
<td>3</td>
</tr>
<tr>
<td>DANC 8808</td>
<td>Corporeal Improvisation</td>
<td>2</td>
</tr>
<tr>
<td>DANC 8839</td>
<td>Movement Theater Workshop</td>
<td>3</td>
</tr>
<tr>
<td>DANC 8847</td>
<td>Choreographing Philadelphia</td>
<td>3</td>
</tr>
<tr>
<td>DANC 8849</td>
<td>Studio Research (taken each of five terms until the Master's Concert and Thesis term)</td>
<td>5</td>
</tr>
</tbody>
</table>

**Critical-Thinking Courses**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DANC 8859</td>
<td>Dancing the City</td>
<td>3</td>
</tr>
<tr>
<td>DANC 8872</td>
<td>Educating Dance</td>
<td>3</td>
</tr>
<tr>
<td>DANC 8873</td>
<td>Concepts of Culture</td>
<td>3</td>
</tr>
</tbody>
</table>

**Electives**

- Dance: 3
- Outside of Department: 6

**Master's Thesis Concert**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DANC 9984</td>
<td>Master's Concert in Dance</td>
<td>7</td>
</tr>
</tbody>
</table>

**Total Credit Hours:** 60

**Culminating Events:**

**Comprehensive Examination:**

The comprehensive examination is designed to evaluate the student's general knowledge in four major areas that are not covered by required courses: dance history, dance in a cultural context, dance education, and dance science. An acceptable level would be equivalent to that acquired from taking a single course in each area covered by the exam.

The comprehensive examination consists of two parts. The short answer section gives students the opportunity to demonstrate knowledge in diverse areas and is taken under supervision, without access to reference materials. The essay section allows students to use any appropriate references and resources. These questions require critical thinking, analysis, and specificity. The essay section is completed over a period of days, and students may use any appropriate references as resources.

The comprehensive examination is taken before the first term of study and must be successfully completed before Master's Concert approval. Graduate Faculty appropriate to the M.F.A. degree write the questions. Evaluation of the examination is followed by advising, where needed, as to specific deficient areas and recommendations are made for courses within the graduate dance curriculum that address areas of concern.

**Master's Thesis Concert:**

The Master's Concert is a seven-credit exercise developed over three terms, and culminating in a publicly produced presentation of choreographic work. The Master's Concert generally consists of one
major choreographic work designed to demonstrate the candidate’s highest achievement of artistry, craft, and thinking.

During the Spring term of the second year of full-time study, students identify a thesis advisor, conduct preliminary research, and prepare the thesis concert proposal. The proposal articulates the artistic and intellectual focus of the project, setting out the questions and challenges of the work that will be developed further in the final paper. After the culminating performance, the student submits a written thesis of 8,000 words that documents the choreographic research process and final product, but more crucially also explores the interaction of theory and practice that informs the work, presenting in-depth reflection on strengths, challenges, meanings, and projections for future work.

Contacts

Department Web Address:
http://www.temple.edu/boyer/academicprograms/dance/

Department Information:
Dept. of Dance
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
1700 N. Broad Street, Suite 309
Philadelphia, PA 19122-0843
dance@temple.edu
215-204-8710

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:

Admissions:
Norma Porter
norma.porter@temple.edu
215-204-0533

Interim Coordinator of Graduate Studies:
Dr. Karen Bond
karen.bond@temple.edu
215-204-6280

Chairperson:
Dr. Karen Bond
karen.bond@temple.edu
215-204-6280

Dance, Ph.D.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program

The Dance Department offers programs of study leading to the Master of Arts, Master of Fine Arts, and Doctor of Philosophy degrees. All students are expected to develop a command of the discipline of dance, as a performing art and as both subject and medium of inquiry. The department’s mission places high value on the role of dance in a pluralistic, multicultural society.

Time Limit for Degree Completion: 7 years

Campus Location: Main. All department courses are offered on Main Campus, but students may take out-of-department credits on another campus.

Full-Time/Part-Time Status: Students complete the degree program through classes offered before and after 4:30 p.m.

Interdisciplinary Study: The program encourages interdisciplinary coursework, research, and interactions among faculty and students with interests in African American Studies, Anthropology, Education, History, Jewish Studies, Media Arts, Music, Philosophy, Sociology, Theater Arts, Women's Studies, and the like.

Accreditation: The Ph.D. in Dance is fully accredited by the National Association of Schools of Dance (NASD).

Areas of Specialization: Individual doctoral faculty members conduct research studies on African and African American aesthetics; dance as a phenomenon in its own right; dance reconstruction; dance teaching and learning across the life span; feminism and dance; performance theory and practice; philosophical, historical, and cultural perspectives of the body and dance, including issues of gender, race, and class; and more. Research expertise of doctoral faculty is in aesthetic, artistic, educational, ethnographic, historical, phenomenological, and sociological modes of inquiry in dance.

Job Prospects: Graduates perform and choreograph with companies throughout the world, teach at all levels of education, serve as arts administrators and policymakers for the arts, and publish extensively.

Non-Matriculated Student Policy: Non-matriculated students are able to take technique classes and some core coursework with the permission of the instructor and the department chair. If accepted into the program, those courses (up to a maximum of 9 credits) may be applied toward the degree program.

Financing Opportunities: Teaching Assistantships (TAs), Research Assistantships (RAs), and Academic Internships (AIs) are available. Teaching responsibilities usually include teaching university general education courses. On occasion, TAs are assigned to teach B.F.A. Dance repertory, technique, or theory courses for which they are qualified. This award includes a monthly stipend, book allowance, and tuition remission. Assistantships are generally awarded for a maximum of two years. The TA/RA/AI application is part of the supplemental dance application for admission. Continuing students who have not held an assistantship also submit a written application in the term prior to commencement of the award.

All Ph.D. applicants are considered for departmental nomination for a University fellowship. This university-wide scheme is highly competitive, and recipients are selected by the Graduate School.

Admission Requirements and Deadlines

Application Deadline:

Fall: January 11

All department and university application materials must be received by the Dance Department. After acceptance at the department level, final review of all application materials is made by the Boyer College of Music and Dance.
A required supplemental application can be obtained at www.temple.edu/boyer/admissions/doctoral-admissions/index.asp.

APPLY ONLINE to this graduate program.

**Letters of Reference:**

*Number Required: 2*

*From Whom:* Letters of recommendation should be obtained from qualified representatives of academic or professional communities in dance.

**Coursework Required for Admission Consideration:** Applicants should have an undergraduate GPA of 3.0; a graduate GPA of 3.4 or above; and transcripts that show a foundational knowledge of dance.

**Master’s Degree in Discipline/Related Discipline:** A master’s degree in Dance, Dance Education, or a related field with substantial professional experience in dance, arts administration, teaching dance, or dance research is required.

**Bachelor’s Degree in Discipline/Related Discipline:** A baccalaureate degree is required, although it need not be in Dance.

**Statement of Goals:** Address your unique profile as a developing professional in the field of dance, as well as your ability to do original research. Reflect on why the Dance Department, i.e., the research foci of its doctoral faculty, its mission, and its resources, is well matched to the student’s career and educational goals.

**Standardized Test Scores:**

GRE/MAT: Required. Scores should be at the 50th percentile or above, whether the GRE or MAT is taken.

TOEFL: 100 iBT or 600 PBT minimum. Any students admitted with a TOEFL score below the minimum must pass an English skills course during their first term at Temple University.

**Graduate Interview Day:** All applicants are expected to attend the Dance Department’s graduate interview day or to make other arrangements to complete interview day requirements. Subject to approval of the Graduate Coordinator, international applicants may be considered for admission by completing all graduate interview day requirements via video and Skype. The day includes a studio warm-up taught by a member of the faculty, presentation of research or applied practice, development of an on-site writing sample, and an interview with doctoral faculty.

**On-Site Writing Activity:** All applicants take part in an on-site writing activity. Results are considered in the admissions process. Remedial coursework may be required.

**Resume:** A resume that details experience in dance, art, education, scholarship, and/or public leadership is required.

**Writing Sample:** A recent scholarly or academic research paper must be submitted as a writing sample.

**Advanced Standing:** Students who enter the Ph.D. program in Dance may be considered for advanced standing, based on relevant coursework. The Dance Doctoral Faculty Committee, with approval of the Associate Dean, awards credits toward advanced standing on a case-by-case basis in the first year of full-time study. The maximum number of advanced standing credits awarded is 33.

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### Program Requirements

**General Program Requirements:**

*Number of Didactic Credits Required Beyond the Master’s: 46*

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DANC 8867</td>
<td>Educational Inquiry in Dance</td>
<td>3</td>
</tr>
<tr>
<td>DANC 9800</td>
<td>Special Topics in Dance</td>
<td>3</td>
</tr>
<tr>
<td>DANC 9801</td>
<td>Research Methods in Dance</td>
<td>3</td>
</tr>
<tr>
<td>DANC 9804</td>
<td>Neoclassicism and the Baroque Revival in Twentieth-Century Dance and Culture</td>
<td>3</td>
</tr>
<tr>
<td>DANC 9831</td>
<td>Moving Across Genres</td>
<td>3</td>
</tr>
<tr>
<td>DANC 9841</td>
<td>Experience, Engagement and Multi-Sensory Inquiry</td>
<td>3</td>
</tr>
<tr>
<td>DANC 9852</td>
<td>Dancing the Popular</td>
<td>3</td>
</tr>
<tr>
<td>DANC 9862</td>
<td>Bodies, Texts, History</td>
<td>3</td>
</tr>
<tr>
<td>DANC 9883</td>
<td>Dir Study in Dance Research (2 terms)</td>
<td>8</td>
</tr>
<tr>
<td>DANC 9991</td>
<td>Directed Research-Dance</td>
<td>1</td>
</tr>
</tbody>
</table>

**Electives**

- Dance: 7 credit hours
- Outside courses: 6 credit hours

**Total Credit Hours:** 46

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### Culminating Events

**Qualifying Examination:**

Students take a Qualifying Examination at the end of Fall term in Year 2. The examination covers three areas crucial to doctoral research. Questions are devised in consultation with specialist advisors. Details of the Qualifying Examination are published in the Graduate Handbook.

**Preliminary Exam Projects:**

Upon completion of all required coursework for the degree, students complete two Preliminary Exam Projects, which are submitted for review early in Fall term of Year 3. These include:

1. A position paper presented in view of the dissertation, which was drafted in DANC 9883 Dir Study in Dance Research and Writing Seminar in Spring term of Year 2.
2. A course proposal for higher education, which the student began work on in DANC 8867 Educational Inquiry in Dance in Spring term of Year 2.

Through DANC 9994 Preliminary Examination Preparation, the student demonstrates significant achievement of scholarly and professional competencies. The Preliminary Exam Projects must be reviewed and approved by a committee composed of at least three Dance doctoral faculty.

**Dissertation Proposal:**

Through DANC 9998 Pre-Dissertation Research, the student prepares a dissertation proposal that evidences a strong body of work thus far and preparedness to complete the Dance Ph.D. program. A primary advisor and Doctoral Advisory Committee are established upon the student’s successful completion of the Preliminary Exam Projects. In consultation with the primary advisor, the student prepares a proposal, including an abstract that is reviewed and approved by Dance doctoral faculty. Once approved for defense, the student makes a formal oral presentation of...
the proposal to the Doctoral Advisory Committee. Upon approval of the dissertation proposal, the student is elevated to candidacy in the Ph.D. program. The dissertation proposal is normally defended in Spring term of Year 3. Written guidelines for the dissertation proposal are published in the Graduate Handbook.

Dissertation:
The dissertation is a substantial piece of original and independent research making a significant contribution to new knowledge in dance and possibly related fields. Typically, students complete the dissertation and DANC 9999 Doctoral Dissertation in Year 4 or 5, although candidates may submit beyond Year 5 in consultation with their primary advisor. The original Doctoral Advisory Committee may be expanded with additional doctoral faculty from Temple University or other universities, or with doctoral-level experts who work outside a university setting. For purposes of the dissertation defense, the committee must include at least one additional doctoral faculty member who is not from the student’s program; so constituted, it becomes the Dissertation Examining Committee. At least one member of the Dissertation Examining Committee must be an “outside examiner,” defined as one who has not read the dissertation in progress.

The primary advisor and student confer with the Dissertation Examining Committee to establish a date for oral defense of the dissertation. A majority of the members of the Dissertation Examining Committee must approve the written dissertation and oral defense; once passed, the student has 30 days to complete final revisions. Detailed guidelines for the dissertation process and examination are published in the Graduate Handbook.

Contacts

Department Web Address:
http://www.temple.edu/boyer/academicprograms/dance/

Department Information:

Dept. of Dance
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
1700 N. Broad Street, Suite 309
Philadelphia, PA 19122-0843
dance@temple.edu
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Norma Porter
norma.porter@temple.edu
215-204-0533

Interim Coordinator of Graduate Studies:
Dr. Karen Bond
karen.bond@temple.edu
215-204-6280

Chairperson:
Dr. Karen Bond

Instrumental Conducting: Wind-Band Emphasis, M.M.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program

The Instrumental Studies Department offers a program of study leading to the Master of Music in Instrumental Conducting: Wind-Band Emphasis. Students in the program have the opportunity to receive advanced instruction in technique, artistry, and scholarship while preparing for success as a conductor-educator in an academic or professional setting.

Time Limit for Degree Completion: 6 years

Financial Aid:

Awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master’s students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Job Prospects:

Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshifiform.pdf) page of Boyer’s website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master’s students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.
Admission Requirements and Deadlines

Application Deadline:

Fall: December 1

Applications are processed as they arrive up to the deadline date.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

Bachelor’s Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: 1,500 word maximum includes your special interests within the discipline and expectations for the program.

Standardized Test Scores:

TOEFL: 79 iBT or 550 PBT minimum

Prescreening Video: For the prescreening video, the applicant's face and torso must face the camera and include 15 to 20 minutes of rehearsal and 5 to 10 minutes of performance. The video is submitted via Acceptd (https://app.getacceptd.com/templeboyer).

Written Analysis: Each applicant must upload to Acceptd (https://app.getacceptd.com/templeboyer) a written score analysis of one of the following selections: Theme and Variations, Op. 43a by Arnold Schoenberg; Lincolnshire Posy by Percy Grainger; or Chester Overture for Band by William Schuman.

Resume: A professional resume is required. Instrumental teaching experience at the secondary level, community ensemble level, collegiate level, semi-professional level, or professionally is highly encouraged and is favorably viewed in the decision process.

Transfer Credit: A student who wishes to transfer credit should speak with her/his academic advisor and obtain a "Request for Transfer of Graduate Credit" form, found in Tuportal under the Tools tab within "University Forms." Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College’s Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 32

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 8352</td>
<td>Choral Conducting Seminar II</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 8535</td>
<td>Private Lessons: Instrumental Conducting Major</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 8536</td>
<td>Private Lessons: Instrumental Conducting Major</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 8537</td>
<td>Private Lessons: Instrumental Conducting Major</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 8538</td>
<td>Private Lessons: Instrumental Conducting Major</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 8539</td>
<td>Instrumental Conducting Seminar: Score Analysis, Programming &amp; Interpretation of Wind Ensemble Lit (2 terms)</td>
<td>4</td>
</tr>
<tr>
<td>MUSC 8541</td>
<td>Advanced Orchestral Conducting I-II</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 8544</td>
<td>Wind Repertory in History: European Antiquity through the 21st Century (2 terms)</td>
<td>4</td>
</tr>
<tr>
<td>MUST 8701</td>
<td>Research in Music</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8742</td>
<td>Seminar in Theoretical Analysis</td>
<td>3</td>
</tr>
<tr>
<td>or MUST 8746</td>
<td>Seminar in Stylistic Analysis</td>
<td></td>
</tr>
<tr>
<td>MUST 8764</td>
<td>Studies in Performance Practice</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>1 Select from Music, Music Education, Music Studies, or other graduate departments. Advisor approval required.</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours 32

Language Examination: Candidates in Instrumental Conducting: Wind-Band Emphasis must demonstrate competency in foreign language dictions at the time of admission to the program. Where the transcript or pass-off examination does not reveal such competency, the appropriate deficiency course in diction skills must be taken prior to completion of the master's degree.

Additional Requirements:

Diagnostic Examinations:

All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a
"Credit / No Credit" basis, and the official university transcript will indicate "CR" (for "Credit," meaning that the deficiency has been satisfied) or "NC" (for "No Credit," meaning that the deficiency has not been satisfied). Students must have a "B-" or better average in any remedial course or section to earn the grade of "Credit" and to satisfy the requirement. Students who earn a grade of "NC" (that is, having a class average below "B-") must retake that course or section until an average of "B-" or higher is achieved and a grade of "CR" is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remediation coursework during their first academic year of study. An exception may be granted for part-time students. Master of Music students may neither schedule graduation recitals nor take final comprehensive master's examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>MUST 5001</td>
<td>Diatonic Harm. Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5002</td>
<td>Chromatic Harm. Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5003</td>
<td>Counterpoint Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5004</td>
<td>Grad Aural Theory Review</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classical, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
- received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

Proficiencies in Piano and Musicianship:
The department evaluates proficiencies in piano and musicianship in the first term of graduate study.

Professional Development Policy:
In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise.

Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:

1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.

2. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

Independent Study Courses:

Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:

All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:

Graduate students in non-performing curricula may take up to six credits of applied study toward the degree with the permission of the major advisor. Such non-required lessons may be taken only if the student can pass the normal graduate-level performing audition expected of performance majors. In this event, a fee of $200, not covered by tuition remission, is charged.

Alternately, a graduate student, regardless of major, with a demonstrable performing proficiency that may not meet the more rigorous requirements of a graduate-level performing audition, may, by audition, qualify to take two credits of applied study per term for graduate credit. These courses carry a fee of $400 plus tuition and may be applied to the non-performing curriculum for degree credit up to six term hours with the approval of the major advisor. Tuition remission may not be used to cover the private lesson fee.

Incompletes:
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Recitals:
Students in Instrumental Conducting: Wind-Band Emphasis present two recitals during the two years of study with members of the Wind Symphony, Symphonic Band, Collegiate Band, and other instrumentalists and/or vocalists:

- One is a public chamber recital with a Keynote® presentation, for which the repertoire is selected, with approval, by the student. At least 50 minutes of music are presented on campus in either Rock Hall or Klein Recital Hall, with adjudication by three full-time music faculty members.
- The second is a comprehensive public large ensemble recital, which comprises small and large performances with the Wind Symphony, Symphonic Band, and Collegiate Band throughout the academic year/concert season. The repertoire is selected by the conductor of the ensemble. Performances are presented in Temple Performing Arts Center and adjudicated by two or three full-time music faculty members.

Students must show evidence through Temple University academic records of having taken private lessons up to the time of the concert performances, both chamber and large ensembles.

Program Notes:
Students in Instrumental Conducting: Wind-Band Emphasis must provide scholarly program notes for compositions performed at performance recitals, including details about the composer, the historical context, analytical components, and inspiration. These are submitted to the Director of Bands four weeks prior to the performance date for review. The notes must be provided with the program at the public performance.

Keynote® or PowerPoint Presentation for Chamber Recital:
Students in Instrumental Conducting: Wind-Band Emphasis present a 30-minute Keynote® or PowerPoint presentation prior to the public concert. This presentation is presented one hour before the recital or one day prior to the public concert (location arranged by the student). The Keynote® or PowerPoint presentation includes salient and interesting features of the pieces and the program. The Keynote® or PowerPoint presentation is meant to supplement the concert experience for the audience and offer a platform for the student conductor to speak about the music, not to reiterate the printed program notes.

Portfolio:
Prior to taking the Comprehensive Examination, students in the Instrumental Conducting: Wind-Band Emphasis M.M. program must submit a portfolio. The portfolio is to include printed concert programs, recordings (audio and visual), resume, transcript, major projects and assignments completed during degree program, presentations, attendance at conferences and symposia, and any other documentation related to experiences in the program. The portfolio is to be submitted during the final term of study for review by the Director of Bands and Director of Athletic Bands.

Culminating Events:
Comprehensive Examination:
Taken in the final term of study, this three-part exam is:
1. tailored toward the student’s coursework while in the program, and
2. standardized to cover a body of knowledge related to history and repertoire in relation to winds.

The Director of Bands mentors students, creates the exam, and administers the writing and listening portions of the exam. A small committee, including the Director of Bands, the Director of Athletic Bands, and one or two Conducting and/or Music Education (instrumental) faculty, is involved in the creation of the oral portion of the exam. The student is asked questions that are mostly from the major field but also include other areas of music, history, theory, and related topics. The department schedules the exam, and the committee grades it pass or fail.

Contacts
Department Web Address:
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

Department Information:
Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
terell.stafford@temple.edu
215-204-8306

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Chairperson:
Professor Terell Stafford
terell.stafford@temple.edu
215-204-8306

Jazz Studies, M.M.
Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program
The master's degree in Jazz Studies consists of advanced training in Jazz Performance and support academic areas vital to the field. Studio and ensemble experiences are combined with rigorous coursework to provide comprehensive training in performance and scholarship. This broad and rigorous program is built on an ideal blend of performance and academic courses taught by an outstanding faculty. Intensive studio training and the proper blend of supportive academic coursework are designed to prompt students to enhance technical expertise while further honing a unique creative/artistic vision.

Time Limit for Degree Completion: 6 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.
Interdisciplinary Study: With approval of the major advisor, students may elect to take up to 5 graduate credits outside the field of music.

Accreditation: This degree program has been submitted for Plan Approval by the National Association of Schools of Music (NASM).

Areas of Specialization: Study focuses on performance of the major instrument in both solo and ensemble settings combined with academic support areas in music.

Job Prospects: The program prepares musicians for either professional activity or doctoral study.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/ internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

Applications are processed as they arrive. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into an applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

Bachelor's Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:

Financial Aid: Bachelor's Degree in Discipline/Related Discipline: curriculum of 124 to 135 hours.

Standardized Test Scores:

Financial Aid: Bachelor of Music degree at Temple University, which is based on a

Financial Aid: Internship application by March 1 to obtain priority consideration

Financial Aid: Application Deadline:

Application Deadline:

Financial Aid: Fall:

Financial Aid: Spring:

Financial Aid: Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Financial Aid: Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td>MUST 8100</td>
<td>Jazz Ensemble (4 terms)</td>
<td>4</td>
</tr>
<tr>
<td>MUST 8104</td>
<td>Jazz Major</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8114</td>
<td>Jazz Major</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8124</td>
<td>Jazz Major</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8184</td>
<td>Jazz Major (Recital)</td>
<td>3</td>
</tr>
<tr>
<td>Jazz Seminars or Jazz Special Topics Courses</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

Total Credit Hours: 30

1 M.M. candidates must be available for ensemble assignments, which are determined by the department chair and may exceed curricular requirements.

2 Select from Music, Music Education, Music Studies, or other graduate departments. At least 3 credits must be in academic, non-performance coursework. Advisor approval required.

Additional Requirements:

All degree credits are to be earned at Temple University.

Diagnostic Examinations:

All entering Master of Music students in Jazz Studies are required to take Diagnostic Examinations in Jazz Theory and Jazz Styles and Analysis prior to the first term of graduate study. The purpose of these
examinations is to determine weaknesses in undergraduate preparation. Depending on the examination results, students may be required to take one or more remedial courses. In these instances, the remedial courses will be graded on a “Credit / No Credit” basis and the official university transcript will indicate “CR” (for “Credit,” meaning that the deficiency has been satisfied) or “NC” (for “No Credit,” meaning that the deficiency has not been satisfied). Students must have a “B-” or better average in any remedial course or section thereof to earn the grade of “Credit” and to satisfy the requirement. Students who earn a grade of “NC” (that is, having a class average below “B-”) must retake that course or section until an average of “B-” or higher is achieved and a grade of “CR” is recorded on the official university transcript.

Remedial courses are offered for undergraduate credit only, and may not count toward graduate degree requirements. Students may take the test only once, and if they do not pass the test or any portion thereof, they must enroll in the remedial course(s) during their first term of study. Depending on which section(s) of the examination are failed, the examiners will stipulate which sections of remedial coursework the student must take. The courses are:

<table>
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<th>Credit Hours</th>
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<tbody>
<tr>
<td>MUST 5105</td>
<td>Remedial Studies in Jazz History</td>
<td>1-3</td>
</tr>
<tr>
<td>MUST 5106</td>
<td>Remedial Studies in Jazz Theory</td>
<td>1-3</td>
</tr>
</tbody>
</table>

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who

1. matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
2. received grades of “B-” or better in every undergraduate course taken in each individual examination area to be waived.

Professional Development Policy:
In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:

1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.
2. Participation: Master's degree candidates in Jazz Studies must be available for ensemble assignments at the discretion of the department chair, including participation beyond curricular requirements.
3. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

Independent Study Courses:
Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:
All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:
Weekly one-hour private lessons are provided for all matriculated master's and doctoral performance majors in good standing, provided at least three additional credits of programatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

Private applied lessons beyond the four-term requirement currently in effect for graduate performance students may be extended with the permission of the jury, department chair, and the Associate Dean or Dean of the Boyer College of Music and Dance.

Recital Extension:
Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a "Credit/No Credit" basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of "CR." Credit derived from Recital Extension will not be counted toward degree requirements.

1. Recital Extension Fees: Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $500 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.
2. Exceptions to Recital Extension:
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.
3. Failure to Present Recital: The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

**Incompletes:**
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

**Culminating Events:**

**Comprehensive Final Project:**
Embedded in MUST 8184 Jazz Major (Recital), the final project is based on the total studio experience and the final recital, the program of which demonstrates completed research, composition, and arranging.

**Public Recital:**
Performance majors present a public recital as the culminating event for the master’s degree [MUST 8184 Jazz Major (Recital)]. Graduation recitals are typically one hour in length; presented on-campus in either Rock Hall or Klein Recital Hall; and adjudicated by three full-time music faculty members. The student must show evidence through Temple University transcript records of having taken private lessons up to the time of the graduation recital. Students who wish to play a recital in the early Fall should plan to register for and complete the final term of lessons during the preceding Summer months.

A Recital Permission Form indicating the private teacher’s approval for performance of the graduation recital must be signed by the private teacher and submitted six weeks prior to the recital. (If the recital is in the first five weeks of the Spring term, the form must be submitted two weeks before the end of the Fall term.) If required by the private teacher, a Recital Permission Jury must be scheduled at least four weeks prior to the recital. If the form is not submitted or a required jury is not scheduled, the department reserves the right to cancel or postpone the recital.

**Contacts**

**Department Web Address:**
http://www.temple.edu/boyer/academicprograms/jazz-studies/

**Department Information:**

Jazz Studies Program  
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance  
2001 N. 13th Street  
Philadelphia, PA 19122-6079  
terell.stafford@temple.edu  
215-204-5527

**Submission Address for Application Materials:**
https://apply.temple.edu/Boyer/

**Department Contacts:**

*Admissions:*  
James Short  
jshort@temple.edu

215-204-8598

**Program Director:**
Terell Stafford  
terell.stafford@temple.edu  
215-204-8036

**Music, M.A.**

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

**About the Program**

The Master of Arts in Music program is designed for students who wish to prepare for entrance into a doctoral program in music. The program is also intended for performers with academic interests who envision teaching music composition, music theory, or musicology in the classroom. It is a music-generalist degree program, especially for students who are preparing to teach music composition, music history, or music theory as a secondary area in a college or university. The degree does not, however, supplant the M.M. degrees in Music Composition, Music History, or Music Theory, which examine only one area and are intended to prepare students for a more focused research-based Ph.D. program.

**Time Limit for Degree Completion:** 4 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The degree program can be completed on a full- or part-time basis.

**Accreditation:** Accreditation is being sought from the National Association of Schools of Music (NASM).

**Areas of Specialization:** Within the prescribed credits for the M.A. in Music, students can focus their studies on music composition, music theory, or musicology.

**Job Prospects:** The program prepares students for various careers related to music and for further academic training at the doctoral level.

**Non-Matriculated Student Policy:** With permission from the Dean's Office, individuals may be granted permission to enter the College as a non-matriculated student, taking up to 9 graduate credits (excluding private lessons) before applying for admission to a program.

**Financing Opportunities:** Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer’s website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master’s students and up to three years for doctoral...
students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

**Admission Requirements and Deadlines**

**Application Deadline:**

- **Fall:** March 1
- **Spring:** November 1

Decisions regarding admission are rendered after receipt of all required credentials. Late applications may be considered for admission.

**APPLY ONLINE to this graduate program.**

**Letters of Reference:**

**Number Required:** 2

**From Whom:** Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

**Coursework Required for Admission Consideration:** All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

**Bachelor's Degree in Discipline/Related Discipline:** The bachelor's degree in Music may be in any concentration: composition, education, performance, and more.

**Statement of Goals:** Include your special interests within the discipline and expectations for the program.

**Standardized Test Scores:**

- **TOEFL:** 79 iBT or 550 PBT minimum
- **Resume:** Current resume required.

**Transfer Credit:** A student who wishes to transfer credit should speak with her/his academic advisor and obtain a "Request for Transfer of Graduate Credit" form, found in TUportal under the Tools tab within "University Forms." Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

**Other:** Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission if failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

**Program Requirements**

**General Program Requirements:**

**Number of Credits Required Beyond the Baccalaureate:** 30

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
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<tr>
<td>MUST 8701</td>
<td>Research in Music</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8749</td>
<td>Current Topics in Musicology and Theory</td>
<td>3</td>
</tr>
</tbody>
</table>

**Focused Electives**

Select courses in Music Composition, Music History, or Music Theory

**Free Electives**

- 15

**Total Credit Hours**

- 30

1. Students work with an advisor to select courses that align with their interests in music composition, music theory, musicology, or a cognate area such as performance.

**Language Examination:** To complete the degree, students must fulfill a foreign language requirement in French, German, Italian, Spanish, or another language with approval of the chair. This requirement may be fulfilled in any one of three ways:

1. The student successfully completed four semesters of a foreign language as an undergraduate.
2. The student passes a foreign language examination with the requisite language department.
3. The student takes four terms of a foreign language. Since language credits are at the undergraduate level, they do not count toward the M.A. degree, but they do fulfill the language requirement.

**Additional Requirements:**

All degree credits are to be earned at Temple University.

**Diagnostic Examinations:**

All entering master's students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a "Credit / No Credit" basis, and the official university transcript will indicate "CR" (for "Credit," meaning that the deficiency has been satisfied) or "NC" (for "No Credit," meaning that the deficiency has not been satisfied). Students must have a "B-" or better average in any remedial course or section to earn the grade of "Credit" and to satisfy the requirement. Students who earn a grade of "NC" (that is, having a class average below "B-") must retake that course or section until an average of "B-" or higher is achieved and a grade of "CR" is recorded on the official transcript.
university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remediation coursework during their first academic year of study. An exception may be granted for part-time students. Master’s students may neither schedule graduation recitals nor take final comprehensive master’s examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

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<tr>
<td>MUST 5001</td>
<td>Diatonic Harm. Review 1</td>
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<tr>
<td>MUST 5002</td>
<td>Chromatic Harm. Review 1</td>
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</tr>
<tr>
<td>MUST 5003</td>
<td>Counterpoint Review 1</td>
<td></td>
</tr>
<tr>
<td>MUST 5004</td>
<td>Grad Aural Theory Review 3</td>
<td></td>
</tr>
</tbody>
</table>

B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
- received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

Piano Proficiency Examination:
Before the end of their course of study, students in the Music M.A. program must take a piano proficiency exam, consisting of the following elements:

1. A Bach chorale (prepared).
2. The exposition of a symphony from the 18th or 19th centuries (prepared).
3. The accompaniment of a song (German Lied or French Chanson; prepared).

Culminating Events:
Comprehensive Examination:
In their final term of study, students in the Music M.A. program take a three-hour comprehensive exam. Members of the department, appointed by the chair, devise the exam based on the coursework the student has taken for the degree.

Final Project:
The final project is an expanded version of a paper or music composition completed in a seminar. The result is intended to be suitable for use when applying to doctoral programs or to show an ability to teach in a particular area. Students submit a written paper in music theory or musicology OR one composition project to their advisor.

Contacts

Department Web Address:
http://www.temple.edu/boyer/academicprograms/musicstudies/

Department Information:
Dept. of Music Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
cynthia.folio@temple.edu
215-204-8316

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:

Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Dr. Cynthia Folio
cynthia.folio@temple.edu
215-204-8316

Chairperson:
Dr. Cynthia Folio
cynthia.folio@temple.edu
215-204-8316

Music, M.S.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program

The Master of Science in Music program is designed for graduate students who wish to broaden their experience in music and combine research and practice at the graduate level. This is a music-generalist degree program that allows students to experience graduate-level instruction that connects research to creative work and problem-solving in a field of practice, as well as expands students’ major performing medium or allows them to explore performance media other than their undergraduate major. The degree does not, however, supplant the M.M. degrees in classical or jazz performance.
Time Limit for Degree Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Accreditation: Accreditation is being sought from the National Association of Schools of Music (NASM).

Areas of Specialization: Within the prescribed credits for the M.S. in Music, students can focus their studies on instrumental music, keyboards, or voice.

Job Prospects: The program prepares students for various careers related to music and for further academic training at the doctoral level.

Non-Matriculated Student Policy: With permission from the Dean's Office, individuals may be granted permission to enter the College as a non-matriculated student, taking up to 9 graduate credits (excluding private lessons) before applying for admission to a program.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

Decisions regarding admission are rendered after receipt of all required credentials. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

Bachelor's Degree in Discipline/Related Discipline: The bachelor's degree in Music may be in any concentration: composition, education, history, performance, theory, therapy, and more.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:
TOEFL: 79 iBT or 550 PBT minimum

Audition: No audition is required for entry to the program, but students do complete an audition for placement in voice lessons and auditioned ensembles at the beginning of the first academic term.

Resume: Current resume required.

Transfer Credit: A student who wishes to transfer credit should speak with her/his academic advisor and obtain a "Request for Transfer of Graduate Credit" form, found in TUportal under the Tools tab within "University Forms." Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUST 8701 Research in Music</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MUST 8704 Music in History</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MUST 8741 Analytical Techniques</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
| Lesson Courses in Voice, Keyboards, or Instrumental Music
Select one of the following:                      | 2            |
| MUSC 5201 Applied Vocal Graduate Minor           |              |
| MUSC 5401 Applied Keyboard Graduate Minor        |              |
| MUSC 5501 Applied Instrumental Graduate Minor    |              |
| Select one of the following:                     | 2            |
| MUSC 5202 Applied Vocal Graduate Minor           |              |
| MUSC 5402 Applied Keyboard Graduate Minor        |              |
| MUSC 5502 Applied Instrumental Graduate Minor    |              |
| Select one of the following:                     | 2            |
MUSC 5203  Applied Vocal Graduate Minor
MUSC 5403  Applied Keyboard Graduate Minor
MUSC 5503  Applied Instrumental Graduate Minor

**Ensemble Courses**

Select two courses in Music History or Music Theory 6
Select two courses in Dance, Music, Music Education, Music Studies, or Musical Theater 6

**Electives**

Select two courses in Music History or Music Theory 6
Select two courses in Dance, Music, Music Education, Music Studies, or Musical Theater 6

**Total Credit Hours** 30

1 Three 1-credit ensemble courses are taken in Instrumental Music or Voice.

**Language Examination:** A language examination is not required for the M.S. in Music.

**Additional Requirements:**

All degree credits are to be earned at Temple University.

**Diagnostic Examinations:**

All entering master’s students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.

Students who opting not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a "Credit / No Credit" basis, and the official university transcript will indicate "CR" (for "Credit," meaning that the deficiency has been satisfied) or "NC" (for "No Credit," meaning that the deficiency has not been satisfied). Students must have a "B-" or better average in any remedial course or section to earn the grade of "Credit" and to satisfy the requirement. Students who earn a grade of "NC" (that is, having a class average below "B-") must retake that course or section until an average of "B-" or higher is achieved and a grade of "CR" is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remediation coursework during their first academic year of study. An exception may be granted for part-time students. Master's students may neither schedule graduation recitals nor take final comprehensive master's examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s)

during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>MUST 5001</td>
<td>Diatonic Harm. Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5002</td>
<td>Chromatic Harm. Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5003</td>
<td>Counterpoint Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5004</td>
<td>Grad Aural Theory Review</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
- received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

**Culminating Events:**

**Final Project:**

As a culminating event, students choose to complete an advisor-approved paper, make a presentation, or deliver a performance that connects research to practice. The paper or program verifying the presentation or performance is placed on file in the Associate Dean’s office prior to graduation.

**Contacts**

**Department Web Address:**

http://www.temple.edu/boyer学术programs/musicstudies/

**Department Information:**

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**Department Contacts:**

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215-204-8316

Chairperson:
Dr. Cynthia Folio
cynthia.folio@temple.edu
215-204-8316

Music, Ph.D.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program

The Music Ph.D. program includes four concentrations: Composition, Music Studies, Music Theory, and Musicology. Each concentration includes a small core of required courses, allowing students to develop their remaining coursework with an advisor to focus on their particular scholarly or creative interests. The concentration in Music Studies allows students to combine disciplines (e.g., Music Theory/Composition or Musicology/Music Theory) in order to face the changes evident in the scholarly/creative fields in music departments throughout the world.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Accreditation: The degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: The Music Ph.D. program includes four concentrations: Composition, Music Studies, Music Theory, and Musicology.

Job Prospects: Graduates of the program typically find employment in professional music organizations throughout the world and in colleges and universities, among other employment venues in the music profession.

Non-Matriculated Student Policy: At the discretion of the department, an applicant may be permitted to enroll for up to 9 graduate credits as a non-matriculated student on a probationary basis, permitting her/him to attend classes and develop sufficient evidence of compositional talent beyond what is demonstrated at the time of application to qualify for full acceptance into the program.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:

Fall: December 1

Decisions regarding admission are rendered after all required credentials have been submitted and the admissions application is complete.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant’s abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

Master’s Degree in Discipline/Related Discipline: For each of the four concentrations, the following master’s degree is expected:

Composition
A degree in Music is expected; a degree in Composition is preferred.

Music Studies
A degree in Music is expected.

Music Theory
A degree in Music is expected; a degree in Music Theory is preferred.

Musicology
A degree in Music is expected; a degree in Musicology/Music History is preferred.

Bachelor’s Degree in Discipline/Related Discipline: For each of the four concentrations, the following baccalaureate degree is expected:

Composition
A degree in Music is expected; a degree in Composition is preferred.

Music Studies
A degree in Music is expected.

Music Theory
A degree in Music is expected; a degree in Music Theory is preferred.

Musicology
A degree in Music is expected; a degree in Musicology/Music History is preferred.

Statement of Goals: Include your special interests within the discipline and your expectations for the program.
TOEFL: 100 iBT or 600 PBT minimum

Portfolio: For those undertaking the Composition concentration, a portfolio is required. Applicants must submit, via Acceptd (https://app.getacceptd.com/templeboyer), evidence of compositional activity. If an applicant has enrolled in MUST 8740 Seminar in Composition prior to submitting her/his application for formal admission to the program in Composition, the work accomplished there may serve to meet this entrance requirement, if satisfactory.

For the concentrations in Music Studies, Music Theory, and Musicology, a portfolio is not required.

Resume: Current resume required.

Scholarly Paper: For those undertaking the Composition concentration, applicants must submit, via Acceptd (https://app.getacceptd.com/templeboyer), one research paper that has no fewer than 12 pages.

For the concentrations in Music Studies, Music Theory, and Musicology, applicants must submit, via Acceptd (https://app.getacceptd.com/templeboyer), two research papers on contrasting topics. Each paper must be no fewer than 12 pages in length.

Advanced Standing: The Music, Ph.D. program consists of 42-52 discrete credits taken beyond the master's degree. At the time of admission, the entire master's degree serves as advanced standing credits. These credits are not counted toward the 42-52 required credits of the doctoral degree. However, students may transfer into the doctoral degree up to 12 graduate credits in coursework taken beyond the master's degree. Typically, this coursework is reviewed after admission to the Ph.D. degree and must be approved by the major advisor and the Associate Dean. The maximum number of advanced standing credits awarded is 30.

Other: The program provides the opportunity for advanced study in music that conforms to the very highest artistic and pedagogical ideals. For this reason, enrollment in the program is limited.

Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:
Number of Didactic Credits Required Beyond the Master's: 42

Standardized Test Scores:
GRE/MAT: Required.

TOEFL: 100 iBT or 600 PBT minimum

Required Courses:

Composition Concentration

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>MUST 8701</td>
<td>Research in Music</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8740</td>
<td>Seminar in Composition (4 terms)</td>
<td>12</td>
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<tr>
<td>MUST 8749</td>
<td>Current Topics in Musicology and Theory</td>
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<tr>
<td>Select two of the following:</td>
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<tr>
<td>MUST 9702</td>
<td>Doctoral Seminar in Music Studies: Music Theory</td>
<td></td>
</tr>
<tr>
<td>MUST 9703</td>
<td>Doctoral Seminar in Music Studies: Music History</td>
<td></td>
</tr>
<tr>
<td>MUST 9704</td>
<td>Doctoral Seminar in Music Studies: Music Composition</td>
<td></td>
</tr>
<tr>
<td>MUST 9999</td>
<td>Dissertation/Monograph Research</td>
<td>6</td>
</tr>
<tr>
<td>Electives 1</td>
<td></td>
<td>12</td>
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<td>Total Credit Hours</td>
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Music Studies Concentration

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUST 8701</td>
<td>Research in Music</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8731</td>
<td>The Pedagogy of Music Theory</td>
<td>3</td>
</tr>
<tr>
<td>or MUST 8737</td>
<td>History and Pedagogy of Musicology</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8743</td>
<td>Seminar in Stylistic Analysis</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8749</td>
<td>Current Topics in Musicology and Theory</td>
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<tr>
<td>Select two of the following:</td>
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<tr>
<td>MUST 9702</td>
<td>Doctoral Seminar in Music Studies: Music Theory</td>
<td></td>
</tr>
<tr>
<td>MUST 9703</td>
<td>Doctoral Seminar in Music Studies: Music History</td>
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</tr>
<tr>
<td>MUST 9704</td>
<td>Doctoral Seminar in Music Studies: Music Composition</td>
<td></td>
</tr>
<tr>
<td>MUST 9999</td>
<td>Dissertation/Monograph Research</td>
<td>6</td>
</tr>
<tr>
<td>Electives 1</td>
<td></td>
<td>18</td>
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<tr>
<td>Total Credit Hours</td>
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</table>

Music Theory Concentration

<table>
<thead>
<tr>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>MUST 8701</td>
<td>Research in Music</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8739</td>
<td>Schenkerian Analysis 2</td>
<td>3</td>
</tr>
<tr>
<td>or MUST 8771</td>
<td>Post-Tonal Theory II</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8743</td>
<td>Seminar in Stylistic Analysis</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8749</td>
<td>Current Topics in Musicology and Theory</td>
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<tr>
<td>Select two of the following:</td>
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<td>6</td>
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<tr>
<td>MUST 9702</td>
<td>Doctoral Seminar in Music Studies: Music Theory</td>
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</tr>
<tr>
<td>MUST 9703</td>
<td>Doctoral Seminar in Music Studies: Music History</td>
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</tbody>
</table>
MUST 9704  Doctoral Seminar in Music Studies: Music Composition
MUST 9999  Dissertation/Monograph Research  6
Electives 1  18
Total Credit Hours  42

1  Student selects no fewer than 18 credits in consultation with an advisor, and with approval of the Chair of Music Studies and the Associate Dean for Student Affairs.

**Musicology Concentration**

<table>
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<tr>
<th>Code</th>
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<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>MUST 8701</td>
<td>Research in Music</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8737</td>
<td>History and Pedagogy of Musicology</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8738</td>
<td>Schenkerian Analysis 1</td>
<td>3</td>
</tr>
<tr>
<td>or MUST 8748 Seminar in Post-Tonal Theory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUST 8743</td>
<td>Seminar in Stylistic Analysis</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8749</td>
<td>Current Topics in Musicology and Theory</td>
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</tr>
<tr>
<td>Select two of the following:</td>
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<td></td>
</tr>
<tr>
<td>MUST 9702</td>
<td>Doctoral Seminar in Music Studies: Music Theory</td>
<td>6</td>
</tr>
<tr>
<td>MUST 9703</td>
<td>Doctoral Seminar in Music Studies: Music History</td>
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<tr>
<td>MUST 9704</td>
<td>Doctoral Seminar in Music Studies: Music Composition</td>
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<tr>
<td>MUST 9999</td>
<td>Dissertation/Monograph Research</td>
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<tr>
<td>Electives 1</td>
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<td>15</td>
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<tr>
<td>Total Credit Hours 42</td>
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</tbody>
</table>

1  Student selects no fewer than 15 credits in consultation with an advisor, and with approval of the Chair of Music Studies and the Associate Dean for Student Affairs.

**Composition**

- **Composition Portfolio** (required only for the Composition concentration): Scores of completed compositions in various media must be submitted on or before the date of the Piano Performance Examination. Tapes of works in electronic media may also be submitted with or without graphic representation. All such submitted work of these designations should indicate the composer's abilities to use effectively both instrumental and vocal media, and, if appropriate, electronic media.

**Piano Performance Examination:**
Prior to the examination, the following should be prepared:

1. A twentieth-century work for piano of sufficient technical difficulty and expressive scope to demonstrate at least medium ability.
2. Score-reading a section of a nineteenth- or twentieth-century orchestral score.
   - In addition, the following will be given for sight-reading:
   - 5. Realization of a figured bass.

If the applicant in Composition gives evidence of outstanding ability to work in computer synthesis of music and has an educational background to support this kind of musical composition rather than one oriented to a more traditional performing medium, dispensation of the performance requirement may be made by the department, based on the applicant's evidence of skills related to the above or to other specialized modes of musical composition. If admitted on these qualifications in lieu of performance ability, the applicant is required to undertake sufficient work at the piano to enable her/him to perform, as a minimum requirement, a prepared chorale harmonization by Bach and a relatively simple orchestral score, also prepared in advance.

**Recital** (required only for the Composition concentration):
A recital of the student's music of chamber dimension is presented as a public event, with the performances the responsibility of the composer-candidate. A faculty committee selected from relevant performance and academic, as well as compositional, areas is asked to attend this recital and to participate in an oral critique of the recital as a whole with the composer-candidate. This is held at a designated time closely following
the recital as set by the department chair. This recital must take place prior to the preliminary examination.

With departmental permission, a student may request a waiver of the recital requirement by presenting scores and recordings of five compositions that have received professional performances. The request must be made in writing to the department chair and a committee convened to review the compositions with the candidate prior to the preliminary examination.

**Continuous Registration:**
Continuous registration of at least 3 s.h. must be maintained each term, with the exception of Summer, from the time of acceptance into the Ph.D. program in Music until the completion of all coursework.

**Continuation in the Ph.D. Program:**
Each course or seminar requires an end-of-term final grade based on papers presented, recitals prepared, and discussion and/or examinations taken during the course of the term. Each term of private study culminates in a performance examination or jury, except during terms in which the student has presented one of the required adjudicated recitals. Grades of less than "B-" cannot be counted toward the degree. If the student earns a grade of less than "B-", s/he may, with permission of the department chair and the Associate Dean, retake the term of study one additional time. Screening for continuance in the program after the first term of study is conducted at adjudicated recitals, end-of-the-term juries, and major examinations. This ensures that only the most qualified students continue beyond the early stages of the program.

**Professional Development Policy:**
In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

**Performing Ensembles:**
1. **Touring:** All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of academic terms. Students must arrange their schedules to accommodate this requirement.
2. **Non-Credit Participation:** With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

**Independent Study Courses:**
Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

**Acceptable English:**
All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

**Written Preliminary Examination:**
After the student completes coursework, the student and the student’s academic advisor agree on a dissertation topic and choose a Doctoral Advisory Committee (DAC). The student presents a written description of the dissertation topic with an accompanying bibliography to the DAC for review. When the committee approves the description and bibliography, a date is set for the Written Preliminary Examination. The examination, composed by the DAC, should test the student’s readiness to commence the dissertation. When the student completes the written exam, the DAC convenes an oral defense of the exam. If the defense of the preliminary exam is successful, the student presents a formal dissertation proposal. If the student fails the Written Preliminary Examination, the DAC schedules a second examination.

**Oral Preliminary Examination:**
One week after the completion of the Written Preliminary Examination, the student takes an Oral Preliminary Examination with the DAC.

**Incompletes:**
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

**Other:**
Graduate assistantships and other forms of University-sponsored financial aid do not cover private lesson and recital extension fees.

**Culminating Events:**
**Proposal:**
Having completed the Written Preliminary Examination, the student’s proposal for the dissertation is also complete.

**Dissertation:**
For the Composition concentration, the dissertation consists of two parts:

1. An original composition of dimension approved by the advisor for full or chamber orchestra with or without soloists, or for voices and orchestra, or other approved media.
2. A short research paper suitable for publication.

Early in the term in which a defense of the dissertation is anticipated, the major advisor notifies the Associate Dean that it is time to appoint the Dissertation Examining Committee (DEC). The DEC consists of the DAC plus an "outside" reader, who is an additional graduate faculty member from Temple or another university, but not from the faculty of the student’s home department.

Doctoral candidates must schedule a defense of the dissertation with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary.
This includes the "Announcement of Dissertation Defense" form, found in TUportal under the Tools tab within "University Forms," which must bear all appropriate signatures and be submitted to the Associate Dean.

Two weeks prior to the oral defense, the student submits individual copies of the abstract and the completed dissertation to the Associate Dean and each member of the DEC. The graduate secretary notifies the Graduate School and posts notices of the impending defense on bulletin boards located within the Boyer College of Music and Dance. All members of the DEC attend the oral defense and then vote to pass or fail the dissertation and its defense after the conclusion of the public presentation.

Changes in membership of a DAC or a DEC must be approved by the Associate Dean. The change also must be communicated to the Graduate School.

For those in the Music Studies, Music Theory, and Musicology concentrations, the completed dissertation demonstrates the capability to integrate coursework; identify a viable research topic; develop an appropriate research design; systematically gain evidence toward resolving the stated problem; and write, defend, and publicize the results in a professional manner. When the dissertation is complete and approved by the major advisor, the major advisor of the DAC asks the Associate Dean to appoint an "outside" reader, who is a graduate faculty member from Temple or another university, but not from the faculty of the student's home department. The DAC plus the outside reader comprise the Dissertation Examining Committee (DEC) for the oral defense. The DEC is formed early in the term in which a defense is anticipated.

One month prior to the requested defense date, the "Announcement of Dissertation Defense" form, found in TUportal under the Tools tab within "University Forms," must be submitted to the Associate Dean bearing all appropriate signatures. This form is available in the Main Office and on the Graduate School website. Two weeks prior to the oral defense, the student submits individual copies of the abstract and the completed dissertation to the Associate Dean and each member of the DEC. The graduate secretary notifies the Graduate School and posts notices of the impending defense on bulletin boards located within the Boyer College of Music and Dance. All members of the DEC attend the oral defense and vote to pass or fail the dissertation and its defense after the conclusion of the public presentation.

Changes in membership of a DAC or a DEC must be approved by the Associate Dean. The change also must be communicated to the Graduate School.

Contacts

Department Web Address:
http://www.temple.edu/boyer/academicprograms/musicstudies/

Department Information:
Dept. of Music Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
Cynthia.Folio@temple.edu
215-204-8316

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:

Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Dr. Cynthia Folio
cynthia.folio@temple.edu
215-204-8316

Chairperson:
Dr. Cynthia Folio
cynthia.folio@temple.edu
215-204-8316

Music Composition, M.M.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program

The Master of Music in Composition is a regimen of professional training spanning the gamut of traditional academic studies from counterpoint to experimental studies in subjects such as software synthesis. The master's program encourages the composer of demonstrated accomplishment to develop a personal voice through private study with at least two members of the Composition faculty.

Time Limit for Degree Completion: 6 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Accreditation: This degree program is accredited by the National Association of Schools of Music (NASM).

Job Prospects: The program prepares students for various careers related to music, as well as for further academic and musical training at the doctoral level.

Non-Matriculated Student Policy: With permission from the Dean's Office, individuals may be granted permission to enter the College as a non-matriculated student, taking up to 9 graduate credits (excluding private lessons) before applying for admission to a program.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate
Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

**Admission Requirements and Deadlines**

**Application Deadline:**
- **Fall:** January 15
- **Spring:** October 15

Decisions regarding admission are rendered after all required credentials have been submitted and the admissions application is complete. **APPLY ONLINE to this graduate program.**

**Letters of Reference:**
**Number Required:** 2

**From Whom:** Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

**Coursework Required for Admission Consideration:** All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

**Bachelor's Degree in Discipline/Related Discipline:** A degree in Music is expected.

**Statement of Goals:** Include your special interests within the discipline and expectations for the program.

**Standardized Test Scores:**
**TOEFL:** 79 iBT or 550 PBT minimum

**Portfolio:** The composition portfolio should demonstrate the student's skills in music composition.

**Resume:** Current resume required.

**Transfer Credit:** A student who wishes to transfer credit should speak with her/his academic advisor and obtain a "Request for Transfer of Graduate Credit" form, found in TUPortal under the Tools tab within "University Forms." Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

**Other:** Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

**Program Requirements**

**General Program Requirements:**
**Number of Credits Required beyond the Baccalaureate:** 30

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUST 8726</td>
<td>Computer Synthesis</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8740</td>
<td>Seminar in Composition (4 terms)</td>
<td>12</td>
</tr>
<tr>
<td>Select two of the following:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUST 8742</td>
<td>Seminar in Theoretical Analysis</td>
<td>6</td>
</tr>
<tr>
<td>MUST 8743</td>
<td>Seminar in Stylistic Analysis</td>
<td></td>
</tr>
<tr>
<td>MUST 8744</td>
<td>Seminar in Stylistic Analysis</td>
<td></td>
</tr>
<tr>
<td>MUST 8745</td>
<td>Seminar in Stylistic Analysis</td>
<td></td>
</tr>
<tr>
<td>MUST 8746</td>
<td>Seminar in Stylistic Analysis</td>
<td></td>
</tr>
<tr>
<td><strong>Electives</strong></td>
<td><strong>9</strong></td>
<td></td>
</tr>
<tr>
<td>Recommended courses include:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUST 8701</td>
<td>Research in Music</td>
<td></td>
</tr>
<tr>
<td>MUST 8713</td>
<td>Canon and Fugue</td>
<td></td>
</tr>
<tr>
<td>MUST 8727</td>
<td>Electronic Music Composition: Practice, History,</td>
<td></td>
</tr>
<tr>
<td>Theory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUST 8747</td>
<td>Aesthetics of Music</td>
<td></td>
</tr>
</tbody>
</table>

**Total Credit Hours** 30

1 Select from Music, Music Education, Music Studies, or other graduate departments. Advisor approval required.

**Language Examination:** Reading knowledge of a foreign language is expected. If a deficiency exists, students may be required to take up to two terms of a foreign language.

**Additional Requirements:**

**Diagnostic Examinations:**
All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a "Credit / No Credit" basis, and the official university transcript will indicate "CR" (for "Credit," meaning that the deficiency has been satisfied) or "NC" (for "No Credit," meaning that the deficiency has not been satisfied). Students must have a "B-" or better average in any remedial course or section to earn the grade of "Credit" and to satisfy the requirement.
Students who earn a grade of "NC" (that is, having a class average below "B-") must retake that course or section until an average of "B-" or higher is achieved and a grade of "CR" is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remediation coursework during their first academic year of study. An exception may be granted for part-time students. Master of Music students may neither schedule graduation recitals nor take final comprehensive master's examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

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<thead>
<tr>
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<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>MUST 5001</td>
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<td>1</td>
</tr>
<tr>
<td>MUST 5002</td>
<td>Chromatic Harm. Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5003</td>
<td>Counterpoint Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5004</td>
<td>Grad Aural Theory Review</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
- received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

Piano Examination:

Composition majors must pass a functional piano examination encompassing the following points:

1. Score Reading: Prepared in advance of the examination, the scores are to be brought to the examination. The exposition of the first movement of a symphony by Haydn or Mozart is recommended. Suggested scores are the 12 "London" symphonies by Haydn or one of the last six symphonies by Mozart. If the student wishes, s/he may play a more difficult score by a later composer.
2. Sight-reading a Bach chorale.
3. Realization of a figured bass.

Professional Development Policy:

In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Independent Study Courses:

Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:

All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Participation in Ensembles:

With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

Incompletes:

All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:

Comprehensive Examination:

Upon completion of a minimum of 30 credits of graduate study and with the approval of the major advisor, the student may request permission from the Associate Dean of the Boyer College of Music and Dance to take the written qualifying examination. This request must be made in writing at least one month before the scheduled date of the examination. If desired, the student may take this examination during the final term of graduate study. The master's qualifying examination is offered once each term.

The Music Composition Division requires a five-hour written examination that includes the composition of a fugal exposition on a subject provided; the composition of a figured bass; the reduction, analysis, and identification of a passage from a provided orchestral work; and two essays about the history and practice of composition. In addition, the division administers a one-hour oral examination consisting of...
discussion and identification of various orchestral scores. Scheduled by Assistant Dean David Brown, the exam is graded by two members of the department’s graduate faculty.

**Portfolio:**
Students are required to submit a portfolio of their work completed during the time they participated in the Master of Music program.

**Contacts**

**Department Web Address:**
http://www.temple.edu/boyer/academicprograms/musicstudies/

**Department Information:**
Dept. of Music Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
cynthia.folio@temple.edu
215-204-8316

**Submission Address for Application Materials:**
https://apply.temple.edu/Boyer/

**Department Contacts:**

**Admissions:**
James Short
jshort@temple.edu
215-204-8598

**Chairperson:**
Dr. Cynthia Folio
cynthia.folio@temple.edu
215-204-8316

**Music Education, M.M.**

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

**About the Program**
The Master of Music in Music Education degree offers opportunities for advanced studies on broad-based principles and practices in Music Education, as well as theories of learning and teaching, and provides an introduction to research methodology.

**Time Limit for Degree Completion:** 6 years

**Campus Location:** Main. Also offered fully online for students currently residing in Alaska, Arizona, California, Colorado, Hawaii, Idaho, Illinois, Maine, Montana, Nebraska, New Hampshire, New Jersey, North Carolina, Ohio, Oklahoma, Pennsylvania, South Dakota, Texas, Vermont, Virginia, Wisconsin, and Wyoming. Whether enrolling in the in-class or the online program, students must already hold teacher certification in at least one state.

**Full-Time/Part-Time Status:** The degree program can be completed on a full- or part-time basis.

**Accreditation:** The Music Education programs at Boyer College of Music and Dance are fully accredited by the National Association of Schools of Music (NASM), the Pennsylvania Department of Education, and the National Council for Accreditation of Teacher Education (NCATE).

**Areas of Specialization:** The M.M. in Music Education provides opportunities for advanced study through specialization in either music education practice or music education research. This program of study is designed for students intending to pursue a doctoral degree in Music Education; those seeking permanent certification in Pennsylvania; or those who view the degree as terminal.

**Job Prospects:** Students typically find employment in educational systems and also within the music industry. The program also is recommended for those who plan to pursue a doctoral degree in Music Education.

**Non-Matriculated Student Policy:** With permission from the Dean's Office, individuals may be granted permission to enter the College as a non-matriculated student, taking up to 9 graduate credits (excluding private lessons) before applying for admission to a program.

**Financing Opportunities:** Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master’s students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

**Admission Requirements and Deadlines**

**Application Deadline:**
- **Fall:** February 1
- **Spring:** November 15

Decisions regarding admission are rendered after all required credentials have been submitted and the admissions application is complete.

**APPLY ONLINE to this graduate program.**

**Letters of Reference:**

**Number Required:** 2

**From Whom:** Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study. Applicants who received a bachelor's degree from the Boyer College of Music and Dance within the previous 12 months are exempt from this requirement.

**Coursework Required for Admission Consideration:** All applicants must present credentials that are the equivalent of the appropriate
Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

Bachelor's Degree in Discipline/Related Discipline: A degree in Music Education is required.

Statement of Goals: Provide a written account of your accomplishments to date, your goals and expectations for the program, your goals for beyond the program, and your special interests in the discipline.

Standardized Test Scores:
TOEFL: 90 iBT or 575 PBT minimum

Resume: Your current resume must be submitted in paper form with other supporting application materials and forwarded electronically to the department chair.

Academic and Musical Profile (AMP): The Academic and Musical Profile (AMP) consists of two parts:

1. Performance: Applicants must submit a digital video of representative instruction episodes that adequately demonstrate both teaching skills and musicianship. The tape should be no more than 15 minutes in duration and may include any type of music teaching. Applicants should include a brief written narrative explaining the contents of the video.

2. Written: This examination is completed by the applicant during the on-campus interview visit. The applicant has 90 minutes to demonstrate writing skills and general knowledge about music education. The exam is scored by Music Education faculty. Results are considered in the admissions decision. Additional coursework may be required to remediate inadequacies.

Teaching Certification: Applicants must be certified to teach in at least one state in the United States. A copy of the teaching certificate must be submitted.

Transfer Credit: A student who wishes to transfer credit should speak with her/his academic advisor and obtain a "Request for Transfer of Graduate Credit" form, found in TUportal under the Tools tab within "University Forms." Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Applicants are encouraged, but not required, to submit any additional information that will help the faculty making an admissions decision. Additional items may include, but are not limited to, digital recordings of compositions or arrangements, recordings of performance groups, lesson or rehearsal plans, curriculum development material, and recital performance recordings.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses: 1

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>MUED 8651</td>
<td>Psych Music Lm &amp; Behav</td>
<td>3</td>
</tr>
<tr>
<td>MUED 8652</td>
<td>Measurement and Evaluation in Music</td>
<td>3</td>
</tr>
<tr>
<td>MUED 8653</td>
<td>Learning Theory in Music</td>
<td>3</td>
</tr>
<tr>
<td>MUED 8661</td>
<td>Research in Music Education</td>
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</tbody>
</table>

Electives
Additional Music Education Courses 6
Coursework in Supporting Areas 2 9

Capstone Course
MUED 9995 Master's Final Project 3
or MUED 9996 Master's Thesis Music Education

Total Credit Hours 30

1. All M.M. coursework stresses the acquisition of advanced knowledge of the theory of teaching and learning, as well as principles of and practices in Music Education.

2. *Supporting areas* include, for example, ethnomusicology, music history, and music theory.

Additional Requirements:

All degree credits are to be earned at Temple University.

Diagnostic Examinations:
All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a "Credit / No Credit" basis, and the official university transcript will indicate "CR" (for "Credit," meaning that the deficiency has been satisfied) or "NC" (for "No Credit," meaning that the deficiency has not been satisfied). Students must have a "B-" or better average in any remedial course or section to earn the grade of "Credit" and to satisfy the requirement. Students who earn a grade of "NC" (that is, having a class average below "B-") must retake that course or section until an average of "B-" or higher is achieved and a grade of "CR" is recorded on the official
university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remediation coursework during their first academic year of study. An exception may be granted for part-time students. Master of Music students may neither schedule graduation recitals nor take final comprehensive master's examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

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<td>Chromatic Harm. Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5003</td>
<td>Counterpoint Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5004</td>
<td>Grad Aural Theory Review</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
- received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

Professional Development Policy:

In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Independent Study Courses:

Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students’ major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:

All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Applied Study:

1. Graduate students in non-performing curricula may take up to 6 credits of applied study toward the degree with the permission of the major advisor, department chair, and the chair of vocal or instrumental studies. Such non-required lessons may be taken only if the student can pass the normal graduate-level performing audition expected of performance majors. In this event, a fee of $200, not covered by tuition remission, is charged.

2. Regardless of major, graduate students with a demonstrable performing proficiency that may not meet the more rigorous requirements of a graduate-level audition may, by audition, qualify to take 2 credits of applied study per term for graduate credit. These courses carry a fee of $400 plus tuition and may be applied to the non-performing curriculum for degree credit. Up to 6 credits may be taken with the approval of the major advisor.

3. Graduate assistantships and other forms of University-sponsored financial aid do not cover private lesson or Recital Extension fees.

Incompletes:

All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:

Comprehensive Oral Examination:

Students in the Music Education M.M. program must take a comprehensive oral examination as part of the capstone course. The choice of capstone course must be declared no later than the second term of study following discussion with the academic advisor:

- MUED 9995 Master’s Final Project: The comprehensive oral examination is part of the oral defense of the final project. It is scheduled individually during finals week. The student is asked to apply coursework materials to concepts covered in the written project. The Defense Examining Committee presides and evaluates.

- MUED 9996 Master’s Thesis Music Education: The comprehensive oral examination is part of the oral defense of the thesis. The student is asked to apply coursework materials to concepts covered therein. The Defense Examining Committee presides and evaluates.
Contacts

Department Web Address:
http://www.temple.edu/boyer/academicprograms/music-education/#mmused

Department Information:
Dept. of Music Education and Therapy
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
radclef@temple.edu
215-204-8310

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Dr. Rollo Dilworth
radclef@temple.edu
215-204-8317

Chairperson:
Dr. Rollo Dilworth
radclef@temple.edu
215-204-8317

Music Education, Ph.D.
Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program
The Ph.D. program in Music Education stresses the development of university teaching skills and research experience. It prepares music educators with advanced skills in quantitative or qualitative research methods to effectively translate research findings into music education practice and develops a cadre of music education professors who can assume leadership roles in the music education profession. Students are offered advanced study through specialization in music education practice and research, focusing on skills development and accountability for a diverse student population in a rapidly changing educational terrain. The program provides a home for those with traditional and non-traditional backgrounds. Its breadth and flexibility allow outstanding opportunities for differences in expertise and focus. The curriculum is overseen by the academic advisor in concert with the departmental Ph.D. advisory committee.

Time Limit for Degree Completion: 7 years
Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: Interdisciplinary study is encouraged.

Accreditation: The Music Education program at the Boyer College of Music and Dance is fully accredited by the National Association of Schools of Music (NASM), the Pennsylvania Department of Education, and the National Council for Accreditation of Teacher Education.

Areas of Specialization: Students enrolled in the Ph.D. program in Music Education identify an area of scholarly focus while at Temple. Examples include, but are not limited to, arts education, choral education, composition, conducting, dance and movement, early childhood music education, educational administration, educational policy studies, elementary music education, general music education, instrumental education, kinesiology, music history, music theory, psychology, secondary music education, sociology, technology, and urban education.

Job Prospects: Graduates of the program typically find employment in colleges and universities, public and private educational systems, and other venues in the music industry, or as independent researchers.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer’s website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:
Fall: February 1
Spring: September 15

Decisions regarding admission are rendered after all required credentials have been submitted and the admissions application is complete.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant’s abilities, talents, and aptitude for graduate study. Applicants who received a degree from
the Boyer College of Music and Dance within the previous 12 months are exempt from this requirement.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours. Doctoral candidates must hold the Master of Music degree (or the equivalent) in the field of specialization from an accredited institution. Applicants accepted with deficiencies will find the deficiencies noted in the letter of admission. Deficiencies must be addressed prior to completion of the degree.

Master’s Degree in Discipline/Related Discipline: A degree in Music is expected. At least one degree, whether bachelor’s or master’s, must be in Music Education.

Bachelor’s Degree in Discipline/Related Discipline: A degree in Music is required.

Statement of Goals: Provide a written account of your accomplishments to date, your goals and expectations for the program, your goals for beyond the program, and your special interests in the discipline.

Standardized Test Scores:
GRE/MAT: Required.

TOEFL: 100 iBT or 600 PBT minimum

Interview: After the complete admissions application has been received by Temple University, applicants should contact the department at 215-204-8310 to arrange a campus visit and schedule an interview.

Resume: Your current resume must be submitted in paper form with other supporting application materials and forwarded electronically to the department chair.

Writing Sample: Applicants submit a paper that was written while completing the master’s degree. This paper should demonstrate the applicant’s scholarship and writing ability.

Academic and Musical Profile (AMP): The Academic and Musical Profile (AMP) consists of two parts:

1. Performance: Applicants must submit a digital video of representative instruction episodes that adequately demonstrate both teaching skills and musicianship. The recording should be no more than 15 minutes in duration and may include any type of music teaching. Applicants should include a brief written narrative explaining the contents of the video. The digital video is submitted via Acceptd (https://app.getacceptd.com/templeboyer).
2. Written: This examination is completed by the applicant during the on-campus interview visit. The applicant has 90 minutes to demonstrate writing skills and general knowledge about music education, including contemporary theories, practices, problems, and trends. The exam is scored by Music Education faculty. Results are considered in the admissions decision. Additional coursework may be required to remediate inadequacies.

Teaching Certification: Applicants must be certified to teach in at least one state in the United States. A minimum of three years’ successful elementary or secondary teaching experience is required. A copy of the teaching certificate must be submitted.

Advanced Standing: The Ph.D. program in Music Education consists of 60 discrete credits taken beyond the master’s degree. At the time of admission, the entire master’s degree serves as advanced standing credits. These credits are not counted toward the 60 required credits of the doctoral degree. However, students may transfer into the doctoral degree up to 12 additional graduate credits in coursework taken beyond the master’s degree. Typically, this coursework is reviewed after admission to the Ph.D. degree and must be approved by the major advisor, the department chair, and the Associate Dean. The maximum number of advanced standing credits awarded is 32.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College’s Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements: Number of Didactic Credits Required Beyond the Master's: 60

Required Courses:

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>MUED 8651</td>
<td>Psych Music Lrn &amp; Behav</td>
<td>3</td>
</tr>
<tr>
<td>MUED 8672</td>
<td>Supervised Univ Music Tch (2 terms)</td>
<td>2</td>
</tr>
<tr>
<td>MUED 8673</td>
<td>Music Tch in Higher Educ</td>
<td>3</td>
</tr>
<tr>
<td>MUED 8674</td>
<td>Sem Grad Music Education (2 terms)</td>
<td>2</td>
</tr>
<tr>
<td>MUED 9999</td>
<td>Doctoral Dissertation</td>
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</table>

Electives

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<th>17</th>
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</thead>
<tbody>
<tr>
<td>Music Supportive Areas</td>
<td>9</td>
</tr>
<tr>
<td>Cognate Area</td>
<td>18</td>
</tr>
</tbody>
</table>

Total Credit Hours: 60

1 Electives in Music Education are taken in the Major Area, advised by the academic advisor. These courses are taken in Music Education and research skills development (educational psychology, statistics, etc.). A course of study is developed depending on the candidate’s prior experiences and professional goals.

2 Electives in Music Supportive Areas are designed to reinforce musical foundations and musicianship. They include conducting, ethnomusicology, literature, music history, music theory, and performance.
After the candidate has been accepted into the program but prior to the first term of study, the candidate declares a cognate area in concert with the academic advisor. The candidate and faculty advisor then develop a general course of study appropriate to the cognate area. The course of study becomes the curriculum that guides the student and faculty advisor throughout the degree program. During the first year of study, students may opt to modify the course of study and/or cognate area in consultation with the advisor. Following the first year of study, the cognate area and general course of study become binding.

Additional Requirements:

All degree credits are to be earned at Temple University.

Written Entrance Examinations:

All doctoral students must take written entrance exams prior to or during the first term of doctoral study. Candidates who fail the entrance examinations the first time may, upon application to the Associate Dean for Graduate Studies of the Boyer College of Music and Dance, be permitted to take the examinations a second time. A third opportunity is not allowed. If the examinations are failed a second time, remediation must occur. Students are advised by departmental faculty who develop a remediation plan according to the student's needs.

To continue registration in the doctoral program beyond the second term of study, all portions of the examinations must be passed or the appropriate review courses (or the equivalent, as determined by the examining department) must be in progress. Students planning to take the written examinations should request a list of dates from the graduate secretary and submit a written request to the Associate Dean one month prior to the administration date.

1. Music History Exam: A general examination covering the history of music is administered. Questions relative to forms, styles, and periods of music are included. It is expected that all examinees are acquainted with the standard literature of music.
2. Harmony Exam: This exam involves completion of a harmonic excerpt in advanced chromatic idiom and the creation of a bass line with figuration (figured bass) in Baroque style.
3. Counterpoint Exam: From a given motive, approximately 20 measures of imitative counterpoint in three parts are to be completed.
4. Form and Analysis Exam: A score is provided at the examination that requires analysis of specified passages.

Continuous Registration:

Continuous registration of at least 3 s.h. must be maintained each term, with the exception of Summer, from the time of acceptance into the Ph.D. program in Music Education until the completion of all coursework.

Continuation in the Ph.D. Program:

Each course or seminar requires an end-of-term final grade based on papers prepared, recitals presented, discussion, and/or examinations taken during the course of the term. Each term of private study culminates in a performance examination or jury, except during terms in which the student has presented one of the required adjudicated recitals. Screening for continuance in the program after the first term of study is conducted at adjudicated recitals, end-of-the-term juries, and major examinations. This ensures that only the most qualified students continue beyond the early stages of the program.

For all doctoral programs, only grades from "A" to "B-" can be applied toward degree requirements. Grades of less than "B-" cannot be counted toward the degree. If the student earns a grade of less than "B-" s/he may, with permission of the department chair and the Associate Dean, retake the term of study one additional time. The same applies to recitals.

Professional Development Policy:

In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

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Acceptable English:

All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Written Preliminary Examinations:

The written preliminary examinations may be taken during the final term of coursework, but no later than in the term after completion of coursework. They are administered several times each calendar year, and span two consecutive days of six hours of examination each day. They should be taken no later than the end of the fifth year. Subject areas are in the major field, as well as in the minor field areas (typically Music History and Music Theory). The written preliminary examinations in Music Education require the student to demonstrate knowledge and the ability to transfer concepts and ideas. The focus is on assessment methods; current issues in Music Education; foundations (psychological, sociological, historical, philosophical); music perception and cognition; musicianship and aesthetic development; research interpretation; research methods; and teaching methods.

Students planning to take the written examinations should request a list of dates from the graduate secretary and submit a written request to the Associate Dean one month prior to the administration date. Students are then notified in writing of the specific dates and administration times of the preliminary examinations for which they have been scheduled. A study guide for the Music Education Preliminary Examinations is available in the Music Education Office. Students are advised to prepare written answers to the questions in the study guide.
Faculty members within the student's major and minor subject areas are involved in preparing the examination questions. At least three graduate faculty members independently read and score each section of the written preliminary examinations. Students typically are graded "Pass" or "Fail" based on a consensus of the examination readers.

Oral Preliminary Examinations:
For those students who pass the written preliminary examinations, no oral preliminary examination is required. (This refers only to the oral preliminary examination and does not refer in any way to the oral defense of the dissertation/monograph.)

If a student fails one or more portions of the written preliminary examination, an oral examination is administered by the major advisor and a minimum of two additional faculty members. In the case of failure in one subject area, two members of that department are asked by the student's major advisor to participate with the major advisor in the examination. In the case of failure in more than one subject area, at least one faculty member from each of the departments in which the failure occurred is asked by the student's major advisor to participate in the examination.

The examination is to be a formal oral examination rather than an informal meeting with graduate faculty from departments in which the examination revealed that the student needs further work. This does not preclude such informal meetings, however, in preparation for the oral examination. Upon passing the oral examination, the student, as advised by the examining committee, is permitted to schedule a second and final attempt at the failed portions of the written examination.

Paper Project:
While a student is matriculated, completion of at least one pre-dissertation sole-authored article suitable for publication in a refereed journal is required. The paper project must demonstrate the ability to synthesize information and processes of research and go significantly beyond any course assignment. It may not duplicate any previous papers completed by the student outside of the degree program. The work on this paper may begin at any time during coursework and must meet current professional standards for publication. The student works with the academic advisor on planning the paper project as soon as the student matriculates in the program. The academic advisor and department chair must approve all project plans.

Residency:
A one-year residency of two contiguous (Fall and Spring) terms is required for Ph.D. candidates. During the residency, internship requirements are met. The residency provides candidates with the opportunity to work closely with a faculty mentor and allows focused time for work toward degree completion with faculty guidance. Candidates with previous University teaching experience may apply for a residency waiver.

Incompletes:
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Other:
Graduate assistantships and other forms of University-sponsored financial aid do not cover private lesson and recital extension fees.

Culminating Events:
Proposal:
Students enroll in MUED 9998 Pre-Dissertation Research and work with the major advisor to prepare a proposal. With the knowledge of the major advisor, the student may consult other faculty members. When the major advisor approves the dissertation proposal, an oral defense of the dissertation proposal is scheduled with all Music Education faculty members present. Faculty members must receive a hard copy of the dissertation proposal no fewer than two weeks before the scheduled defense.

After a dissertation proposal has been developed by the student and approved by the major advisor and Music Education faculty at the oral defense, the student prepares a final copy for approval. At the same time, the student identifies the names of the DAC members to the Associate Dean for consideration. The DAC is appointed officially by the Graduate School. The DAC consists of no fewer than three persons: the student’s major advisor, a second person from the department, and a third person from outside the department. Each member of the DAC must sign the final proposal. When all DAC members have signed the title page, the student copies the final proposal and delivers, within 30 days, one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School.

After all coursework is completed, preliminary examinations have been passed, and the dissertation proposal has been accepted by the Music Education faculty, the candidate should register for MUED 9999 Doctoral Dissertation each Fall and Spring term until the dissertation has been successfully defended. Doctoral candidates are required to register for a minimum of 6 credit hours of MUED 9999 during their program as a whole, but must register for a minimum of 1 such credit each term while working on the dissertation.

Dissertation:
The completed dissertation demonstrates the capability to integrate coursework; identify a viable research topic; develop an appropriate research design; systematically gain evidence toward resolving the stated problem; and write, defend, and publicize the results in a professional manner. When the dissertation is complete and approved by the major advisor, the major advisor of the DAC asks the Associate Dean to appoint an outside reader, who is a graduate faculty member from Temple or another university, but not from the faculty of the student’s home department. The DAC plus the outside reader comprise the Dissertation Examining Committee (DEC) for the oral defense. The DEC is formed early in the term in which a defense is anticipated.

One month prior to the requested defense date, the "Announcement of Oral Defense" form, found in Tuportal under the Tools tab within "University Forms," must be submitted to the Associate Dean bearing all appropriate signatures. Two weeks prior to the oral defense, the student submits individual copies of the abstract and the completed dissertation to the Associate Dean and each member of the DEC. The graduate secretary notifies the Graduate School and posts notices of the impending defense on bulletin boards located within the Boyer College of Music and Dance. All members of the DEC attend the oral defense and vote to pass or fail the dissertation and its defense after the conclusion of the public presentation.

Changes in membership of a DAC or a DEC must be approved by the Associate Dean. The change also must be communicated to the Graduate School.
Music History, M.M.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program

The Master of Music in Music History is intended for those who wish to expand their knowledge of historical styles, genres, composers, periods, music literature, and analytical techniques. The program is especially recommended for those who want to pursue a doctoral degree in musicology.

Time Limit for Degree Completion: 6 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Accreditation: This degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Within the prescribed credits for the M.M. in Music History, students can focus their studies on traditional Western-oriented music history topics spanning antiquity through the twentieth century.

Job Prospects: The program prepares students for various careers related to music, and for further academic and musical training at the doctoral level.

Non-Matriculated Student Policy: With permission from the Dean’s Office, individuals may be granted permission to enter the College as a non-matriculated student, taking up to 9 graduate credits (excluding private lessons) before applying for admission to a program.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer’s website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master’s students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

Decisions regarding admission are rendered after receipt of all required credentials. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant’s abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

Bachelor’s Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:

TOEFL: 79 iBT or 550 PBT minimum

Resume: Current resume required.

Writing Sample: An applicant must submit with the application for admission an undergraduate-level paper demonstrating her/his ability to do musical analysis and/or report research.
Transfer Credit: A student who wishes to transfer credit should speak with her/his academic advisor and obtain a "Request for Transfer of Graduate Credit" form, found in TUportal under the Tools tab within "University Forms." Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

# Program Requirements

## General Program Requirements:

**Number of Credits Required Beyond the Baccalaureate:** 32

**Required Courses:**

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<th>Code</th>
<th>Title</th>
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<tr>
<td>MUST 8701</td>
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<td>Select one of the following:</td>
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<td>MUST 8742</td>
<td>Seminar in Theoretical Analysis</td>
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<td>MUST 8743</td>
<td>Seminar in Stylistic Analysis</td>
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<td>Seminar in Stylistic Analysis</td>
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<td>Seminar in Stylistic Analysis</td>
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<td>MUST 8746</td>
<td>Seminar in Stylistic Analysis</td>
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<td>MUST 8749</td>
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<td>MUST 9995</td>
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1. Select from Music, Music Education, Music Studies, and other graduate departments. Up to 6 credits in applied music study are permitted. Advisor approval required.

**Language Examination:** Reading knowledge of a foreign language is expected. If a deficiency exists, students may be required to take up to four terms of a foreign language.

**Additional Requirements:**

All degree credits are to be earned at Temple University.

**Diagnostic Examinations:**

All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a "Credit / No Credit" basis, and the official university transcript will indicate "CR" (for "Credit," meaning that the deficiency has been satisfied) or "NC" (for "No Credit," meaning that the deficiency has not been satisfied). Students must have a "B-" or better average in any remedial course or section to earn the grade of "Credit" and to satisfy the requirement. Students who earn a grade of "NC" (that is, having a class average below "B-"") must retake that course or section until an average of "B-" or higher is achieved and a grade of "CR" is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remedial coursework during their first academic year of study. An exception may be granted for part-time students. Master of Music students may neither schedule graduation recitals nor take final comprehensive master's examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

### A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

<table>
<thead>
<tr>
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<tr>
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<td>MUST 5002</td>
<td>Chromatic Harm. Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5003</td>
<td>Counterpoint Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5004</td>
<td>Grad Aural Theory Review</td>
<td>3</td>
</tr>
</tbody>
</table>

### B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

### C. Conditions for Exemption from Diagnostic Examinations

Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.
The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
- received grades of "B+" or better in every undergraduate course taken in each individual examination area to be waived.

Piano Examination:
Music History majors take a functional piano examination encompassing the following points:

1. Score Reading: Prepared in advance of the examination, the scores are to be brought to the examination. The exposition of the first movement of a symphony by Haydn or Mozart is recommended. Suggested scores are the 12 "London" symphonies by Haydn or one of the last six symphonies by Mozart. If the student wishes, s/he may play a more difficult score by a later composer.
2. Performing a portion of the score of a four- (or more) part choral work from any period.
3. Accompanying on an elementary lied.

Professional Development Policy:
In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Independent Study Courses:
Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:
All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Applied Music Study:
1. Graduate students in non-performing curricula may take up to 6 credits of applied study toward the degree with the permission of the major advisor. Such non-required lessons may be taken only if the student can pass the normal graduate-level performing audition expected of performance majors. In this event, a fee of $200, not covered by tuition remission, is charged.
2. Regardless of major, graduate students with a demonstrable performing proficiency that may not meet the more rigorous requirements of a graduate-level audition may, by audition, qualify to take 2 credits of applied study per term for graduate credit. These courses carry a fee of $400 plus tuition and may be applied to the non-performing curriculum for degree credit. Up to 6 credits may be taken with the approval of the major advisor.
3. Graduate assistantships and other forms of University-sponsored financial aid do not cover private lesson or Recital Extension fees.

Incompletes:
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:
Comprehensive Examination:
Upon completion of a minimum of 30 credits of graduate study and with the approval of the major advisor, the student may request permission from the Associate Dean of the Boyer College of Music and Dance to take the written qualifying examination. This request must be made in writing at least one month before the scheduled date of the examination. If desired, the student may take this examination during the final term of graduate study. The master's qualifying examination is offered once each term.

The three-hour written examination in Music History covers topics from the Middle Ages to the present, bibliographic resources, and performance practice. More penetrating questions are included in subject areas that the student has covered in formal situations. Musical scores are included for analysis and discussion. Scheduled by Assistant Dean David Brown, the exam is graded by two members of the department's graduate faculty.

Final Written Project:
Music History majors write a final written project (MUST 9995 Final Project) — not a thesis — that is 50-75 pages in length. The project provides an opportunity to utilize and demonstrate the skills acquired in historical, stylistic, and analytical research, and also provides a vehicle needed for those interested in applying for doctoral studies. No defense of the final written project is scheduled. The major advisor evaluates and grades the final written project.

Contacts

Department Web Address:
http://www.temple.edu/boyer/academicprograms/musicstudies/

Department Information:
Dept. of Music Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
cynthia.folio@temple.edu
215-204-8316
Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Chairperson:
Dr. Cynthia Folio
cynthia.folio@temple.edu
215-204-8316

Music Performance/Bassoon, M.M.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program
The master's degree in Bassoon Performance develops expertise beyond baccalaureate-level achievement. Students specialize in the study of the major instrument and take courses outside the major area that support advanced musical and academic development. The Department of Instrumental Studies provides the potential professional performer and/or teacher with the finest instrumental training within the context of a comprehensive university. Students study privately with professional artist-teachers and enjoy opportunities for performance in numerous large and chamber music ensembles.

Time Limit for Degree Completion: 6 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: With approval of the major advisor, students may elect to take up to 6 graduate credits outside the field of music.

Accreditation: This degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Study focuses on performance of the major instrument, the solo and ensemble literature of the instrument, and academic support areas in music.

Job Prospects: The program prepares musicians for either professional activity or doctoral study.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:
Fall: March 1
Spring: November 1

Applications are processed as they arrive. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into an applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

Bachelor's Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:
TOEFL: 75 iBT or 537 PBT minimum

Audition: See www.temple.edu/boyer for audition repertoire requirements.

Resume: Current resume required.

Transfer Credit: A student who wishes to transfer credit should speak with her/his academic advisor and obtain a "Request for Transfer of Graduate Credit" form, found in TUportal under the Tools tab within "University Forms." Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any
Program Requirements

General Program Requirements:
Number of Didactic Credits Required Beyond the Baccalaureate: 30

Required Courses:

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<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>MUSC 8500</td>
<td>Instrumental Ensemble (2 terms)</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 8504</td>
<td>Instrumental Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 8510</td>
<td>Instrumental Ensemble (2 terms)</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 8514</td>
<td>Instrumental Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 8524</td>
<td>Instrumental Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 8584</td>
<td>Instrumental Major (Recital)</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8701</td>
<td>Research in Music</td>
<td>3</td>
</tr>
</tbody>
</table>

Select one of the following:
- MUST 8742 Seminar in Theoretical Analysis
- MUST 8743 Seminar in Stylistic Analysis
- MUST 8744 Seminar in Stylistic Analysis
- MUST 8745 Seminar in Stylistic Analysis
- MUST 8746 Seminar in Stylistic Analysis
- MUST 8747 Aesthetics of Music
- MUST 8748 Seminar in Post-Tonal Theory
- MUST 8749 Current Topics in Musicology and Theory

Electives

Total Credit Hours 30

1. M.M. candidates must be available for ensemble assignments, which are determined by the department chair and may exceed curricular requirements.

2. Select from Music, Music Education, Music Studies, or other graduate departments. At least 3 credits must be in academic, non-performance coursework. Advisor approval required.

Additional Requirements:

All degree credits are to be earned at Temple University.

Diagnostic Examinations:

All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a "Credit / No Credit" basis, and the official university transcript will indicate "CR" (for "Credit," meaning that the deficiency has been satisfied) or "NC" (for "No Credit," meaning that the deficiency has not been satisfied). Students must have a "B-" or better average in any remedial course or section to earn the grade of "Credit" and to satisfy the requirement. Students who earn a grade of "NC" (that is, having a class average below "B-") must retake that course or section until an average of "B-" or higher is achieved and a grade of "CR" is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remediation coursework during their first academic year of study. An exception may be granted for part-time students. Master of Music students may not schedule graduation recitals nor take final comprehensive master's examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

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<td>MUST 5004</td>
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</table>

B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
- received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

Professional Development Policy:
In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:

1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.
2. Participation: Master's degree candidates in wind, brass, and percussion instruments must be available for ensemble assignments at the discretion of the department chair, including participation beyond curricular requirements.
3. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

Independent Study Courses:
Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:
All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:
Weekly one-hour private lessons are provided for all matriculated master's and doctoral performance majors in good standing, provided at least three additional credits of programmatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

Private applied lessons beyond the four-term requirement currently in effect for graduate performance students may be extended with the permission of the jury, department chair, and the Associate Dean or Dean of the Boyer College of Music and Dance.

Recital Extension:
Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a "Credit/No Credit" basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of "CR." Credit derived from Recital Extension will not be counted toward degree requirements.

1. Recital Extension Fees: Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.
2. Exceptions to Recital Extension:
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.
3. Failure to Present Recital: The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

Incomplete:
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:
Comprehensive Final Project:
Students must maintain a list of all literature, including solos, etudes, and excerpts, performed each term in lessons, using a printed form provided by the department. During the final term of study, students are required to submit a three-part written project. Part 1 includes lists of music studied/performed in all four terms of lessons; the lists must be signed by the studio teacher. Part 2 includes program notes or background information for any two of the pieces listed in Part 1. The notes should be approximately 500 words each and must contain at least three recognized references, such as Baker's and New Grove. Any online resource must be documented and recognized as appropriate and authoritative. Part 3 is to consist of one of the following:

1. A discussion of a third piece from the submitted lists or one movement of a multi-movement piece from the lists: The length of the piece or movement being discussed should be no less than 8-10 minutes. This discussion must form a paper of no less than 2,000 words. Topics may include (but are not limited to) historical perspectives, performance and performance practice issues, instrumental technical issues, the importance or role of the piece in the literature for the student's instrument, etc. This discussion must
2. A theoretical analysis of one of the listed pieces or one movement of a multi-movement piece from the lists: The length of the piece or movement being analyzed should be no less than 8-10 minutes. This analysis should address form, basic harmonic events, large-scale phrasing, performance practice issues, etc., as outlined in a rubric provided by the department.

The written project must be submitted to the Department of Instrumental Studies no later than November 1 for an anticipated December graduation or April 1 for an anticipated May graduation. Documents are distributed among the departmental faculty for review and a grade of either “pass” or “fail.” A passing grade from a majority (and no fewer than two) of the department’s graduate faculty members is required. Students who do not pass are told what needs to be fixed (content, grammar, etc.) and, using whatever resources they have (e.g., the University’s Writing Center), prepare and submit a revision that receives a passing grade. In order for a student to graduate on schedule, any revision that is required must receive a passing grade before the deadline by which names must be submitted for graduation.

Public Recital:
Performance majors present a public recital as the culminating event for the master’s degree (MUSC 8984). Graduation recitals are typically one hour in length; presented on-campus in either Rock Hall or Klein Recital Hall; and adjudicated by two full-time music faculty members. The student must show evidence through Temple University transcript records of having taken private lessons up to the time of the graduation recital. Students who wish to play a recital in the early Fall should plan to register for and complete the final term of lessons during the preceding Summer months.

A Recital Permission Form indicating the private teacher’s approval for performance of the graduation recital must be signed by the private teacher and submitted six weeks prior to the recital. (If the recital is in the first five weeks of the Spring term, the form must be submitted two weeks before the end of the Fall term.) If required by the private teacher, a Recital Permission Jury must be scheduled at least four weeks prior to the recital. If the form is not submitted or a required jury is not scheduled, the department reserves the right to cancel or postpone the recital.

Contacts

Department Web Address:
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

Department Information:
Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
eschwein@temple.edu
215-204-8598

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Eric Schweingruber
eschwein@temple.edu
215-204-9792

Chairperson:
Professor Terell Stafford
terell.stafford@temple.edu
215-204-8036

Music Performance/Cello, M.M.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program
The master's degree in Cello Performance develops expertise beyond baccalaureate-level achievement. Students specialize in the study of the major instrument and take courses outside the major area that support advanced musical and academic development. The Department of Instrumental Studies provides the potential professional performer and/or teacher with the finest instrumental training within the context of a comprehensive university. Students study privately with professional artist-teachers and enjoy opportunities for performance in numerous large and chamber music ensembles.

Time Limit for Degree Completion: 6 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: With approval of the major advisor, students may elect to take up to 6 graduate credits outside the field of music.

Accreditation: This degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Study focuses on performance of the major instrument, the solo and ensemble literature of the instrument, and academic support areas in music.

Job Prospects: The program prepares musicians for either professional activity or doctoral study.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related
to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer’s website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master’s students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

Applications are processed as they arrive. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant’s abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

Bachelor’s Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:

TOEFL: 75 iBT or 537 PBT minimum

Audition: See www.temple.edu/boyer for audition repertoire requirements.

Resume: Current resume required.

Transfer Credit: A student who wishes to transfer credit should speak with her/his academic advisor and obtain a “Request for Transfer of Graduate Credit” form, found in TUPortal under the Tools tab within “University Forms.” Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College’s Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:

Number of Didactic Credits Required Beyond the Baccalaureate: 32

Required Courses:

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<td>Instrumental Ensemble (4 terms) ¹</td>
<td>4</td>
</tr>
<tr>
<td>MUSC 8514</td>
<td>Instrumental Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 8524</td>
<td>Instrumental Major</td>
<td>3</td>
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<tr>
<td>MUSC 8561</td>
<td>Lower String Pedagogy</td>
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<tr>
<td></td>
<td>or MUSC 8562 Upper String Pedagogy</td>
<td></td>
</tr>
<tr>
<td>MUSC 8584</td>
<td>Instrumental Major (Recital)</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8701</td>
<td>Research in Music</td>
<td>3</td>
</tr>
<tr>
<td>Electives ²</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td></td>
<td>32</td>
</tr>
</tbody>
</table>

¹ M.M. candidates must be available for ensemble assignments, which are determined by the department chair and may exceed curricular requirements.

² Select from Music, Music Education, Music Studies, or other graduate departments. At least 3 credits must be in academic, non-performance coursework. Advisor approval required.

Additional Requirements:

All degree credits are to be earned at Temple University.

Diagnostic Examinations:

All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a “Credit / No Credit” basis, and the official university transcript will indicate “CR” (for “Credit,” meaning that the deficiency has been satisfied) or “NC” (for “No Credit,” meaning that the deficiency has not been satisfied). Students must have a “B-” or better average in any remedial course or section to earn the grade of "Credit” and to satisfy the requirement.
Students who earn a grade of "NC" (that is, having a class average below "B-") must retake that course or section until an average of "B-" or higher is achieved and a grade of "CR" is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remediation coursework during their first academic year of study. An exception may be granted for part-time students. Master of Music students may neither schedule graduation recitals nor take final comprehensive master’s examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

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<tr>
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</thead>
<tbody>
<tr>
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</tr>
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<td>MUST 5002</td>
<td>Chromatic Harm. Review</td>
<td>1</td>
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<tr>
<td>MUST 5003</td>
<td>Counterpoint Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5004</td>
<td>Grad Aural Theory Review</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
- received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

Professional Development Policy:

In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:

1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.

2. Participation: Master’s degree candidates in wind, brass, and percussion instruments must be available for ensemble assignments at the discretion of the department chair, including participation beyond curricular requirements.

3. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

University Orchestra:

At the master’s degree level, all bowed string majors must perform in the University Orchestra each term they receive lessons.

Independent Study Courses:

Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student’s curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:

All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College’s statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:

Weekly one-hour private lessons are provided for all matriculated master’s and doctoral performance majors in good standing, provided at least three additional credits of programmatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

Private applied lessons beyond the four-term requirement currently in effect for graduate performance students may be extended with the permission of the jury, department chair, and the Associate Dean or Dean of the Boyer College of Music and Dance.

Recital Extension:

Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a "Credit/No Credit" basis only. Upon
satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of “CR.” Credit derived from Recital Extension will not be counted toward degree requirements.

1. Recital Extension Fees: Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.

2. Exceptions to Recital Extension:
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.

3. Failure to Present Recital: The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

Incompletes:
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:

Comprehensive Final Project:
Students must maintain a list of all literature, including solos, etudes, and excerpts, performed each term in lessons, using a printed form provided by the department. During the final term of study, students are required to submit a three-part written project. Part 1 includes lists of music studied/performing in all four terms of lessons; the lists must be signed by the studio teacher. Part 2 includes program notes or background information for any two of the pieces listed in Part 1. The notes should be approximately 500 words each and must contain at least three recognized references, such as Baker’s and New Grove. Any online resource must be documented and recognized as appropriate and authoritative. Part 3 is to consist of one of the following:

1. A discussion of a third piece from the submitted lists or one movement of a multi-movement piece from the lists: The length of the piece or movement being discussed should be no less than 8-10 minutes. This discussion must form a paper of no less than 2,000 words. Topics may include (but are not limited to) historical perspectives, performance and performance practice issues, instrumental technical issues, the importance or role of the piece in the literature for the student’s instrument, etc. This discussion must be presented as a formal paper with supporting information, including resources, charts, and the like.

OR

2. A theoretical analysis of one of the listed pieces or one movement of a multi-movement piece from the lists: The length of the piece or movement being analyzed should be no less than 8-10 minutes. This analysis should address form, basic harmonic events, large-scale phrasing, performance practice issues, etc., as outlined in a rubric provided by the department.

The written project must be submitted to the Department of Instrumental Studies no later than November 1 for an anticipated December graduation or April 1 for an anticipated May graduation. Documents are distributed among the departmental faculty for review and a grade of either “pass” or “fail.” A passing grade from a majority (and no fewer than two) of the department’s graduate faculty members is required. Students who do not pass are told what needs to be fixed (content, grammar, etc.) and, using whatever resources they have (e.g., the University’s Writing Center), prepare and submit a revision that receives a passing grade. In order for a student to graduate on schedule, any revision that is required must receive a passing grade before the deadline by which names must be submitted for graduation.

Public Recital:
Performance majors present a public recital as the culminating event for the master’s degree (MUSC 8984). Graduation recitals are typically one hour in length; presented on-campus in either Rock Hall or Klein Recital Hall; adjudicated by two full-time music faculty members. The student must show evidence through Temple University transcript records of having taken private lessons up to the time of the graduation recital. Students who wish to play a recital in the early Fall should plan to register for and complete the final term of lessons during the preceding Summer months.

A Recital Permission Form indicating the private teacher’s approval for performance of the graduation recital must be signed by the private teacher and submitted six weeks prior to the recital. (If the recital is in the first five weeks of the Spring term, the form must be submitted two weeks before the end of the Fall term.) If required by the private teacher, a Recital Permission Jury must be scheduled at least four weeks prior to the recital. If the form is not submitted or a required jury is not scheduled, the department reserves the right to cancel or postpone the recital.

Contacts

Department Web Address:
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

Department Information:
Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
terell.stafford@temple.edu
215-204-5527

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Professor Jeffrey Solow
jeffrey.solow@temple.edu
215-204-5527

Chairperson:
Professor Terell Stafford
terell.stafford@temple.edu
215-204-8036

Music Performance/Clarinet, M.M.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program

The master's degree in Clarinet Performance develops expertise beyond baccalaureate-level achievement. Students specialize in the study of the major instrument and take courses outside the major area that support advanced musical and academic development. The Department of Instrumental Studies provides the potential professional performer and/or teacher with the finest instrumental training within the context of a comprehensive university. Students study privately with professional artist-teachers and enjoy opportunities for performance in numerous large and chamber music ensembles.

Time Limit for Degree Completion: 6 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: With the approval of the major advisor, students may elect to take up to 6 graduate credits outside the field of music.

Accreditation: This degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Study focuses on performance of the major instrument, the solo and ensemble literature of the instrument, and academic support areas in music.

Job Prospects: The program prepares musicians for either professional activity or doctoral study.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

Applications are processed as they arrive. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

Bachelor's Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:

TOEFL: 75 iBT or 537 PBT minimum

Audition: See www.temple.edu/boyer for audition repertoire requirements.

Resume: Current resume required.

Transfer Credit: A student who wishes to transfer credit should speak with her/his academic advisor and obtain a "Request for Transfer of Graduate Credit" form, found in TPortal under the Tools tab within "University Forms." Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.
Program Requirements

General Program Requirements:
Number of Didactic Credits Required Beyond the Baccalaureate: 30

Required Courses:

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
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<td>MUSC 8500</td>
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<tr>
<td>MUSC 8504</td>
<td>Instrumental Major</td>
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<tr>
<td>MUSC 8510</td>
<td>Instrumental Ensemble (2 terms)</td>
<td>2</td>
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<td>MUSC 8514</td>
<td>Instrumental Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 8524</td>
<td>Instrumental Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 8584</td>
<td>Instrumental Major (Recital)</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8701</td>
<td>Research in Music</td>
<td>3</td>
</tr>
</tbody>
</table>

Select one of the following:

- MUST 8742 Seminar in Theoretical Analysis
- MUST 8743 Seminar in Stylistic Analysis
- MUST 8744 Seminar in Stylistic Analysis
- MUST 8745 Seminar in Stylistic Analysis
- MUST 8746 Seminar in Stylistic Analysis
- MUST 8747 Aesthetics of Music
- MUST 8748 Seminar in Post-Tonal Theory
- MUST 8749 Current Topics in Musicology and Theory

Electives:

<table>
<thead>
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</tr>
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</table>

Total Credit Hours: 30

1 M.M. candidates must be available for ensemble assignments, which are determined by the department chair and may exceed curricular requirements.

2 Select from Music, Music Education, Music Studies, or other graduate departments. At least 3 credits must be in academic, non-performance coursework. Advisor approval required.

Additional Requirements:

All degree credits are to be earned at Temple University.

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All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

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Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a "Credit / No Credit" basis, and the official university transcript will indicate "CR" (for "Credit," meaning that the deficiency has been satisfied) or "NC" (for "No Credit," meaning that the deficiency has not been satisfied). Students must have a "B-" or better average in any remedial course or section to earn the grade of "Credit" and to satisfy the requirement. Students who earn a grade of "NC" (that is, having a class average below "B-") must retake that course or section until an average of "B-" or higher is achieved and a grade of "CR" is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

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A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

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Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

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The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

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1. **Touring:** All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.

2. **Participation:** Master’s degree candidates in wind, brass, and percussion instruments must be available for ensemble assignments at the discretion of the department chair, including participation beyond curricular requirements.

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3. **Failure to Present Recital:** The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

**Incomplete Grades:**

All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

**Culminating Events:**

**Comprehensive Final Project:**

Students must maintain a list of all literature, including solos, etudes, and excerpts, performed each term in lessons, using a printed form provided by the department. During the final term of study, students are required to submit a three-part written project. Part 1 includes lists of music studied/acted in all four terms of lessons; the lists must be signed by the studio teacher. Part 2 includes program notes or background information for any two of the pieces listed in Part 1. The notes should be approximately 500 words each and must contain at least three recognized references, such as Baker’s and New Grove. Any online resource must be documented and recognized as appropriate and authoritative. Part 3 is to consist of one of the following:

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A Recital Permission Form indicating the private teacher’s approval for performance of the graduation recital must be signed by the private teacher and submitted six weeks prior to the recital. (If the recital is in the first five weeks of the Spring term, the form must be submitted two weeks before the end of the Fall term.) If required by the private teacher, a Recital Permission Jury must be scheduled at least four weeks prior to the recital. If the form is not submitted or a required jury is not scheduled, the department reserves the right to cancel or postpone the recital.

About the Program
The master’s degree in Classical Guitar Performance develops expertise beyond baccalaureate-level achievement. Students specialize in the study of the major instrument and take courses outside the major area that support advanced musical and academic development. The Department of Instrumental Studies provides the potential professional performer and/or teacher with the finest instrumental training within the context of a comprehensive university. Students study privately with professional artist-teachers and enjoy opportunities for performance in numerous large and chamber music ensembles.

Time Limit for Degree Completion: 6 years

Campus Location: Main

Full-Time/Part-Time Status: The degree can be completed on a full- or part-time basis.

Interdisciplinary Study: With approval of the major advisor, students may elect to take up to 6 graduate credits outside the field of music.

Accreditation: This degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Study focuses on performance of the major instrument, the solo and ensemble literature of the instrument, and academic support areas in music.

Job Prospects: The program prepares musicians for either professional activity or doctoral study.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer’s website. Typically these awards are made only in the Fall term for up to two terms: Fall and
Admission Requirements and Deadlines

Application Deadline:

- **Fall**: March 1
- **Spring**: November 1

Applications are processed as they arrive. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:

- **Number Required**: 2

  - **From Whom**: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

Bachelor's Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:

- **TOEFL**: 75 iBT or 537 PBT minimum

Audition: See www.temple.edu/boyer for audition repertoire requirements.

Resume: Current resume required.

Transfer Credit: A student who wishes to transfer credit should speak with her/his academic advisor and obtain a "Request for Transfer of Graduate Credit" form, found in TUportal under the Tools tab within "University Forms." Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:

**Number of Didactic Credits Required Beyond the Baccalaureate**: 30

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 8500</td>
<td>Instrumental Ensemble (2 terms)</td>
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</tr>
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<td>MUSC 8504</td>
<td>Instrumental Major</td>
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</tr>
<tr>
<td>MUSC 8510</td>
<td>Instrumental Ensemble (2 terms)</td>
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<td>MUSC 8514</td>
<td>Instrumental Major</td>
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<td>MUSC 8524</td>
<td>Instrumental Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 8584</td>
<td>Instrumental Major (Recital)</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8701</td>
<td>Research in Music</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8742</td>
<td>Seminar in Theoretical Analysis</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8743</td>
<td>Seminar in Stylistic Analysis</td>
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<td>Seminar in Stylistic Analysis</td>
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<td>MUST 8746</td>
<td>Seminar in Stylistic Analysis</td>
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</tr>
<tr>
<td>MUST 8747</td>
<td>Aesthetics of Music</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8748</td>
<td>Seminar in Post-Tonal Theory</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8749</td>
<td>Current Topics in Musicology and Theory</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>8</td>
</tr>
</tbody>
</table>

**Total Credit Hours**: 30

1. M.M. candidates must be available for ensemble assignments, which are determined by the department chair and may exceed curricular requirements.

2. Select from Music, Music Education, Music Studies, or other graduate departments. At least 3 credits must be in academic, non-performance coursework. Advisor approval required.

Additional Requirements:

All degree credits are to be earned at Temple University.

Diagnostic Examinations:

All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a "Credit / No Credit" basis, and the official university transcript will indicate "CR" (for "Credit," meaning that the deficiency has been satisfied) or
NC" (for "No Credit," meaning that the deficiency has not been satisfied). Students must have a "B-" or better average in any remedial course or section to earn the grade of "Credit" and to satisfy the requirement. Students who earn a grade of "NC" (that is, having a class average below "B-") must retake that course or section until an average of "B-" or higher is achieved and a grade of "CR" is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remediation coursework during their first academic year of study. An exception may be granted for part-time students. Master of Music students may neither schedule graduation recitals nor take final comprehensive master's examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>MUST 5001</td>
<td>Diatonic Harm. Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5002</td>
<td>Chromatic Harm. Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5003</td>
<td>Counterpoint Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5004</td>
<td>Grad Aural Theory Review</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
- received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

Professional Development Policy:

In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:

1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.

2. Participation: Master's degree candidates in wind, brass, and percussion instruments must be available for ensemble assignments at the discretion of the department chair, including participation beyond curricular requirements.

3. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

Independent Study Courses:

Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:

All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:

Weekly one-hour private lessons are provided for all matriculated master's and doctoral performance majors in good standing, provided at least three additional credits of programmatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

Private applied lessons beyond the four-term requirement currently in effect for graduate performance students may be extended with the permission of the jury, department chair, and the Associate Dean or Dean of the Boyer College of Music and Dance.

Recital Extension:

Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a "Credit/No Credit" basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course
will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of "CR." Credit derived from Recital Extension will not be counted toward degree requirements.

1. Recital Extension Fees: Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.

2. Exceptions to Recital Extension:
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.

3. Failure to Present Recital: The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

Incompletes:
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:
Comprehensive Final Project:
Students must maintain a list of all literature, including solos, etudes, and excerpts, performed each term in their program, using a printed form provided by the department. During the final term of study, students are required to submit a three-part written project. Part 1 includes lists of music studied/produced in all four terms of lessons; the lists must be signed by the studio teacher. Part 2 includes program notes or background information for any two of the pieces listed in Part 1. The notes should be approximately 500 words each and must contain at least three recognized references, such as Baker’s and New Grove. Any online resource must be documented and recognized as appropriate and authoritative. Part 3 is to consist of one of the following:

1. A discussion of a third piece from the submitted lists or one movement of a multi-movement piece from the lists: The length of the piece or movement being discussed should be no less than 8-10 minutes. This discussion must form a paper of no less than 2,000 words. Topics may include (but are not limited to) historical perspectives, performance and performance practice issues, instrumental technical issues, the importance or role of the piece in the literature for the student’s instrument, etc. This discussion must be presented as a formal paper with supporting information, including resources, charts, and the like. OR

2. A theoretical analysis of one of the listed pieces or one movement of a multi-movement piece from the lists: The length of the piece or movement being analyzed should be no less than 8-10 minutes. This analysis should address form, basic harmonic events, large-scale phrasing, performance practice issues, etc., as outlined in a rubric provided by the department.

The written project must be submitted to the Department of Instrumental Studies no later than November 1 for an anticipated December graduation or April 1 for an anticipated May graduation. Documents are distributed among the departmental faculty for review and a grade of either “pass” or “fail.” A passing grade from a majority (and no fewer than two) of the department’s graduate faculty members is required. Students who do not pass are told what needs to be fixed (content, grammar, etc.) and, using whatever resources they have (e.g., the University’s Writing Center), prepare and submit a revision that receives a passing grade. In order for a student to graduate on schedule, any revision that is required must receive a passing grade before the deadline by which names must be submitted for graduation.

Public Recital:
Performance majors present a public recital as the culminating event for the master’s degree (MUSC 8984). Graduation recitals are typically one hour in length; presented on-campus in either Rock Hall or Klein Recital Hall; and adjudicated by two full-time music faculty members. The student must show evidence through Temple University transcript records of having taken private lessons up to the time of the graduation recital. Students who wish to play a recital in the early Fall should plan to register for and complete the final term of lessons during the preceding Summer months.

A Recital Permission Form indicating the private teacher’s approval for performance of the graduation recital must be signed by the private teacher and submitted six weeks prior to the recital. (If the recital is in the first five weeks of the Spring term, the form must be submitted two weeks before the end of the Fall term.) If required by the private teacher, a Recital Permission Jury must be scheduled at least four weeks prior to the recital. If the form is not submitted or a required jury is not scheduled, the department reserves the right to cancel or postpone the recital.

Contacts
Department Web Address:
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

Department Information:
Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
eschwein@temple.edu
215-204-5527

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Music Performance/Double Bass, M.M.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE

About the Program

The master's degree in Double Bass Performance develops expertise beyond baccalaureate-level achievement. Students specialize in the study of the major instrument and take courses outside the major area that support advanced musical and academic development. The Department of Instrumental Studies provides the potential professional performer and/or teacher with the finest instrumental training within the context of a comprehensive university. Students study privately with professional artist-teachers and enjoy opportunities for performance in numerous large and chamber music ensembles.

Time Limit for Degree Completion: 6 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: With approval of the major advisor, students may elect to take up to 6 graduate credits outside the field of music.

Accreditation: This degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Study focuses on performance of the major instrument, the solo and ensemble literature of the instrument, and academic support areas in music.

Job Prospects: The program prepares musicians for either professional activity or doctoral study.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/ internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

Applications are processed as they arrive. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

Bachelor's Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:
TOEFL: 75 iBT or 537 PBT minimum

Audition: See www.temple.edu/boyer for audition repertoire requirements.

Resume: Current resume required.

Transfer Credit: A student who wishes to transfer credit should speak with her/his academic advisor and obtain a "Request for Transfer of Graduate Credit" form, found in TUportal under the Tools tab within "University Forms." Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.
Program Requirements

General Program Requirements:
Number of Didactic Credits Required Beyond the Baccalaureate: 32

Required Courses:

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 8500</td>
<td>Instrumental Ensemble (4 terms)</td>
<td>4</td>
</tr>
<tr>
<td>MUSC 8504</td>
<td>Instrumental Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 8510</td>
<td>Instrumental Ensemble (2 terms)</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 8514</td>
<td>Instrumental Major</td>
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</tr>
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<td>MUSC 8524</td>
<td>Instrumental Major</td>
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<tr>
<td>MUSC 8555</td>
<td>Orchestral Repertoire (2 terms)</td>
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<tr>
<td>MUSC 8561</td>
<td>Lower String Pedagogy</td>
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</tr>
<tr>
<td>or MUSC 8562</td>
<td>Upper String Pedagogy</td>
<td></td>
</tr>
<tr>
<td>MUSC 8584</td>
<td>Instrumental Major (Recital)</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8701</td>
<td>Research in Music</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives ²

Total Credit Hours 32

¹ M.M. candidates must be available for ensemble assignments, which are determined by the department chair and may exceed curricular requirements.

² Select from Music, Music Education, Music Studies, or other graduate departments. At least 3 credits must be in academic, non-performance coursework. No more than 2 additional credits of MUSC 8555 Orchestral Repertoire can be taken as an elective. Advisor approval required.

Additional Requirements:

All degree credits are to be earned at Temple University.

Diagnostic Examinations:

All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a “Credit / No Credit” basis, and the official university transcript will indicate “CR” (for “Credit,” meaning that the deficiency has been satisfied) or “NC” (for “No Credit,” meaning that the deficiency has not been satisfied). Students must have a “B-” or better average in any remedial course or section to earn the grade of “Credit” and to satisfy the requirement. Students who earn a grade of “NC” (that is, having a class average below “B-”) must retake that course or section until an average of “B-” or higher is achieved and a grade of “CR” is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remediation coursework during their first academic year of study. An exception may be granted for part-time students. Master of Music students may neither schedule graduation recitals nor take final comprehensive master’s examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

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</tr>
<tr>
<td>MUST 5003</td>
<td>Counterpoint Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5004</td>
<td>Grad Aural Theory Review</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements;
- received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

Professional Development Policy:

In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:
1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.

2. Participation: Master's degree candidates in wind, brass, and percussion instruments must be available for ensemble assignments at the discretion of the department chair, including participation beyond curricular requirements.

3. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

University Orchestra:
At the master’s degree level, all bowed string majors must perform in the University Orchestra each term they receive lessons.

Independent Study Courses:
Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students’ major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student’s curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:
All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College’s statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:
Weekly one-hour private lessons are provided for all matriculated master’s and doctoral performance majors in good standing, provided at least three additional credits of programmatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

Private applied lessons beyond the four-term requirement currently in effect for graduate performance students may be extended with the permission of the jury, department chair, and the Associate Dean or Dean of the Boyer College of Music and Dance.

Recital Extension:
Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a “Credit/No Credit” basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of “CR.” Credit derived from Recital Extension will not be counted toward degree requirements.

1. Recital Extension Fees: Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.

2. Exceptions to Recital Extension:
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.

3. Failure to Present Recital: The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

Incompletes:
All incomplete grades and keyboard proficiencies must be fulfilled by the last day of the month in which the student expects to graduate.

Culminating Events:
Comprehensive Final Project:
Students must maintain a list of all literature, including solos, etudes, and excerpts, performed each term in lessons, using a printed form provided by the department. During the final term of study, students are required to submit a three-part written project. Part 1 includes lists of music studied/perform from all four terms of lessons; the lists must be signed by the studio teacher. Part 2 includes program notes or analysis should address form, basic harmonic events, large-scale phrasing, performance practice issues, etc., as outlined in a rubric provided by the department.

OR

2. A theoretical analysis of one of the listed pieces or one movement of a multi-movement piece from the lists: The length of the piece or movement being analyzed should be no less than 8-10 minutes. This analysis must be presented as a formal paper with supporting information, including resources, charts, and the like.
The written project must be submitted to the Department of Instrumental Studies no later than November 1 for an anticipated December graduation or April 1 for an anticipated May graduation. Documents are distributed among the departmental faculty for review and a grade of either “pass” or “fail.” A passing grade from a majority (and no fewer than two) of the department’s graduate faculty members is required. Students who do not pass are told what needs to be fixed (content, grammar, etc.) and, using whatever resources they have (e.g., the University’s Writing Center), prepare and submit a revision that receives a passing grade. In order for a student to graduate on schedule, any revision that is required must receive a passing grade before the deadline by which names must be submitted for graduation.

Public Recital:
Performance majors present a public recital as the culminating event for the master’s degree (MUSC 8984). Graduation recitals are typically one hour in length; presented on-campus in either Rock Hall or Klein Recital Hall; and adjudicated by two full-time music faculty members. The student must show evidence through Temple University transcript records of having taken private lessons up to the time of the graduation recital. Students who wish to play a recital in the early Fall should plan to register for and complete the final term of lessons during the preceding Summer months.

A Recital Permission Form indicating the private teacher’s approval for performance of the graduation recital must be signed by the private teacher and submitted six weeks prior to the recital. (If the recital is in the first five weeks of the Spring term, the form must be submitted two weeks before the end of the Fall term.) If required by the private teacher, a Recital Permission Jury must be scheduled at least four weeks prior to the recital. If the form is not submitted or a required jury is not scheduled, the department reserves the right to cancel or postpone the recital.

Contacts

Department Web Address:
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

Department Information:
Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
terell.stafford@temple.edu
215-204-5527

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Professor Jeffrey Solow
jeffrey.solow@temple.edu

Music Performance/Euphonium, M.M.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program

The master's degree in Euphonium Performance develops expertise beyond baccalaureate-level achievement. Students specialize in the study of the major instrument and take courses outside the major area that support advanced musical and academic development. The Department of Instrumental Studies provides the potential professional performer and/or teacher with the finest instrumental training within the context of a comprehensive university. Students study privately with professional artist-teachers and enjoy opportunities for performance in numerous large and chamber music ensembles.

Time Limit for Degree Completion: 6 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: With approval of the major advisor, students may elect to take up to 6 graduate credits outside the field of music.

Accreditation: The degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Study focuses on performance of the major instrument, the solo and ensemble literature of the instrument, and academic support areas in music.

Job Prospects: The program prepares musicians for either professional activity or doctoral study.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral
Admission Requirements and Deadlines

Application Deadline:

Fall: March 1  
Spring: November 1

Applications are processed as they arrive. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

Bachelor's Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:

TOEFL: 75 iBT or 537 PBT minimum

Audition: See www.temple.edu/boyer for audition repertoire requirements.

Resume: Current resume required.

Transfer Credit: A student who wishes to transfer credit should speak with her/his academic advisor and obtain a "Request for Transfer of Graduate Credit" form, found in TUportal under the Tools tab within "University Forms." Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:

Number of Didactic Credits Required Beyond the Baccalaureate: 30

Required Courses:

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<tr>
<th>Code</th>
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<th>Credit Hours</th>
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<td>MUSC 8504</td>
<td>Instrumental Major</td>
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</tr>
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<td>MUSC 8510</td>
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<td>Instrumental Major</td>
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<td>MUSC 8524</td>
<td>Instrumental Major</td>
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<td>MUSC 8584</td>
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<td>MUST 8701</td>
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Select one of the following: 3

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<td>MUST 8747</td>
<td>Aesthetics of Music</td>
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<td>MUST 8748</td>
<td>Seminar in Post-Tonal Theory</td>
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<td>MUST 8749</td>
<td>Current Topics in Musicology and Theory</td>
<td>3</td>
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<tr>
<td>Electives</td>
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</table>

Total Credit Hours 30

1 M.M. candidates must be available for ensemble assignments, which are determined by the department chair and may exceed curricular requirements.

2 Select from Music, Music Education, Music Studies, or other graduate departments. At least 3 credits must be in academic, non-performance coursework. Advisor approval required.

Additional Requirements:

All degree credits are to be earned at Temple University.

Diagnostic Examinations:

All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a "Credit / No Credit" basis, and the official university transcript will indicate "CR" (for "Credit," meaning that the deficiency has been satisfied) or
"NC" (for "No Credit," meaning that the deficiency has not been satisfied). Students must have a "B-" or better average in any remedial course or section to earn the grade of "Credit" and to satisfy the requirement. Students who earn a grade of "NC" (that is, having a class average below "B-") must retake that course or section until an average of "B-" or higher is achieved and a grade of "CR" is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remediation coursework during their first academic year of study. An exception may be granted for part-time students. Master of Music students may neither schedule graduation recitals nor take final comprehensive master's examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

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<thead>
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<td>MUST 5002</td>
<td>Chromatic Harm. Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5003</td>
<td>Counterpoint Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5004</td>
<td>Grad Aural Theory Review</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
- received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

Professional Development Policy:

In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:

1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.

2. Participation: Master's degree candidates in wind, brass, and percussion instruments must be available for ensemble assignments at the discretion of the department chair, including participation beyond curricular requirements.

3. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

Independent Study Courses:

Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:

All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:

Weekly one-hour private lessons are provided for all matriculated master's and doctoral performance majors in good standing, provided at least three additional credits of programmatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

Private applied lessons beyond the four-term requirement currently in effect for graduate performance students may be extended with the permission of the jury, department chair, and the Associate Dean or Dean of the Boyer College of Music and Dance.

Recital Extension:

Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a "Credit/No Credit" basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course...
will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of "CR." Credit derived from Recital Extension will not be counted toward degree requirements.

1. Recital Extension Fees: Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.

2. Exceptions to Recital Extension:
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
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3. Failure to Present Recital: The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

Incompletes:
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:
Comprehensive Final Project:
Students must maintain a list of all literature, including solos, etudes, and excerpts, performed each term in lessons, using a printed form provided by the department. During the final term of study, students are required to submit a three-part written project. Part 1 includes lists of music studied/ performed in all four terms of lessons; the lists must be signed by the studio teacher. Part 2 includes program notes or background information for any two of the pieces listed in Part 1. The notes should be approximately 500 words each and must contain at least three recognized references, such as Baker's and New Grove. Any online resource must be documented and recognized as appropriate and authoritative. Part 3 is to consist of one of the following:

1. A discussion of a third piece from the submitted lists or one movement of a multi-movement piece from the lists: The length of the piece or movement being discussed should be no less than 8-10 minutes. This discussion must form a paper of no less than 2,000 words. Topics may include (but are not limited to) historical perspectives, performance and performance practice issues, instrumental technical issues, the importance or role of the piece in the literature for the student's instrument, etc. This discussion must be presented as a formal paper with supporting information, including resources, charts, and the like.

OR

2. A theoretical analysis of one of the listed pieces or one movement of a multi-movement piece from the lists: The length of the piece or movement being analyzed should be no less than 8-10 minutes. This analysis should address form, basic harmonic events, large-scale phrasing, performance practice issues, etc., as outlined in a rubric provided by the department.

The written project must be submitted to the Department of Instrumental Studies no later than November 1 for an anticipated December graduation or April 1 for an anticipated May graduation. Documents are distributed among the departmental faculty for review and a grade of either "pass" or "fail." A passing grade from a majority (and no fewer than two) of the department's graduate faculty members is required. Students who do not pass are told what needs to be fixed (content, grammar, etc.) and, using whatever resources they have (e.g., the University's Writing Center), prepare and submit a revision that receives a passing grade. In order for a student to graduate on schedule, any revision that is required must receive a passing grade before the deadline by which names must be submitted for graduation.

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A Recital Permission Form indicating the private teacher's approval for performance of the graduation recital must be signed by the private teacher and submitted six weeks prior to the recital. (If the recital is in the first five weeks of the Spring term, the form must be submitted two weeks before the end of the Fall term.) If required by the private teacher, a Recital Permission Jury must be scheduled at least four weeks prior to the recital. If the form is not submitted or a required jury is not scheduled, the department reserves the right to cancel or postpone the recital.

Contacts

Department Web Address:
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

Department Information:
Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
eschwein@temple.edu
215-204-5527

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Music Performance/Flute, M.M.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program

The master's degree in Flute Performance develops expertise beyond baccalaureate-level achievement. Students specialize in the study of the major instrument and take courses outside the major area that support advanced musical and academic development. The Department of Instrumental Studies provides the potential professional performer and/or teacher with the finest instrumental training within the context of a comprehensive university. Students study privately with professional artist-teachers and enjoy opportunities for performance in numerous large and chamber music ensembles.

Time Limit for Degree Completion: 6 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: With the approval of the major advisor, students may elect to take up to 6 graduate credits outside the field of music.

Accreditation: This degree program is accredited by the National Association of Schools of Music (NASM).

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Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

Applications are processed as they arrive. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

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Program Requirements

General Program Requirements:
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Select one of the following: 3

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<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>MUST 8742</td>
<td>Seminar in Theoretical Analysis</td>
<td></td>
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<td>MUST 8743</td>
<td>Seminar in Stylistic Analysis</td>
<td></td>
</tr>
<tr>
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<td>MUST 8749</td>
<td>Current Topics in Musicology and Theory</td>
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Electives 2 8

Total Credit Hours 30

1  M.M. candidates must be available for ensemble assignments, which are determined by the department chair and may exceed curricular requirements.

2  Select from Music, Music Education, Music Studies, or other graduate departments. At least 3 credits must be in academic, non-performance coursework. Advisor approval required.

Additional Requirements:

All degree credits are to be earned at Temple University.

Diagnostic Examinations:

All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a "Credit / No Credit" basis, and the official university transcript will indicate "CR" (for "Credit," meaning that the deficiency has been satisfied) or "NC" (for "No Credit," meaning that the deficiency has not been satisfied). Students must have a "B-" or better average in any remedial course or section to earn the grade of "Credit" and to satisfy the requirement. Students who earn a grade of "NC" (that is, having a class average below "B-") must retake that course or section until an average of "B-" or higher is achieved and a grade of "CR" is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remedial coursework during their first academic year of study. An exception may be granted for part-time students. Master of Music students may neither schedule graduation recitals nor take final comprehensive master's examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

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B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
- received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

Professional Development Policy:

In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. The Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and...
open house events; supervising performance classes; and engaging in other academic activities.

**Performing Ensembles:**

1. **Touring:** All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.

2. **Participation:** Master's degree candidates in wind, brass, and percussion instruments must be available for ensemble assignments at the discretion of the department chair, including participation beyond curricular requirements.

3. **Non-Credit Participation:** With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

**Independent Study Courses:**

Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

**Acceptable English:**

All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

**Graduate Private Lesson Policy:**

Weekly one-hour private lessons are provided for all matriculated master's and doctoral performance majors in good standing, provided at least three additional credits of programmatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

Private applied lessons beyond the four-term requirement currently in effect for graduate performance students may be extended with the permission of the jury, department chair, and the Associate Dean or Dean of the Boyer College of Music and Dance.

**Recital Extension:**

Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a "Credit/No Credit" basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of "CR." Credit derived from Recital Extension will not be counted toward degree requirements.

1. **Recital Extension Fees:** Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.

2. **Exceptions to Recital Extension:**

   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.

   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.

3. **Failure to Present Recital:** The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

**Incomplete:**

All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

**Culminating Events:**

**Comprehensive Final Project:**

Students must maintain a list of all literature, including solos, etudes, and excerpts, performed each term in lessons, using a printed form provided by the department. During the final term of study, students are required to submit a three-part written project. Part 1 includes lists of music studied/ performed in all four terms of lessons; the lists must be signed by the studio teacher. Part 2 includes program notes or background information for any two of the pieces listed in Part 1. The notes should be approximately 500 words each and must contain at least three recognized references, such as Baker's and New Grove. Any online resource must be documented and recognized as appropriate and authoritative. Part 3 is to consist of one of the following:

1. A discussion of a third piece from the submitted lists or one movement of a multi-movement piece from the lists: The length of the piece or movement being discussed should be no less than 8-10 minutes. This discussion must form a paper of no less than 2,000 words. Topics may include (but are not limited to) historical perspectives, performance and performance practice issues, instrumental technical issues, the importance or role of the piece in the literature for the student's instrument, etc. This discussion must be presented as a formal paper with supporting information, including resources, charts, and the like.

   OR

2. A theoretical analysis of one of the listed pieces or one movement of a multi-movement piece from the lists: The length of the piece or movement being analyzed should be no less than 8-10 minutes. This analysis should address form, basic harmonic events, large-scale
phrasing, performance practice issues, etc., as outlined in a rubric provided by the department.

The written project must be submitted to the Department of Instrumental Studies no later than November 1 for an anticipated December graduation or April 1 for an anticipated May graduation. Documents are distributed among the departmental faculty for review and a grade of either “pass” or “fail.” A passing grade from a majority (and no fewer than two) of the department’s graduate faculty members is required. Students who do not pass are told what needs to be fixed (content, grammar, etc.) and, using whatever resources they have (e.g., the University’s Writing Center), prepare and submit a revision that receives a passing grade. In order for a student to graduate on schedule, any revision that is required must receive a passing grade before the deadline by which names must be submitted for graduation.

Public Recital:
Performance majors present a public recital as the culminating event for the master's degree (MUSC 8984). Graduation recitals are typically one hour in length; presented on-campus in either Rock Hall or Klein Recital Hall; and adjudicated by two full-time music faculty members. The student must show evidence through Temple University transcript records of having taken private lessons up to the time of the graduation recital. Students who wish to play a recital in the early Fall should plan to register for and complete the final term of lessons during the preceding Summer months.

A Recital Permission Form indicating the private teacher's approval for performance of the graduation recital must be signed by the private teacher and submitted six weeks prior to the recital. (If the recital is in the first five weeks of the Spring term, the form must be submitted two weeks before the end of the Fall term.) If required by the private teacher, a Recital Permission Jury must be scheduled at least four weeks prior to the recital. If the form is not submitted or a required jury is not scheduled, the department reserves the right to cancel or postpone the recital.

Contacts
Department Web Address:
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

Department Information:
Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
eschwein@temple.edu
215-204-5527

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Eric Schweingruber
eschwein@temple.edu
215-204-9792

Chairperson:
Professor Terell Stafford
terell.stafford@temple.edu
215-204-8036

Music Performance/French Horn, M.M.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program
The master's degree in French Horn Performance develops expertise beyond baccalaureate-level achievement. Students specialize in the study of the major instrument and take courses outside the major area that support advanced musical and academic development. The Department of Instrumental Studies provides the potential professional performer and/or teacher with the finest instrumental training within the context of a comprehensive university. Students study privately with professional artist-teachers and enjoy opportunities for performance in numerous large and chamber music ensembles.

Time Limit for Degree Completion: 6 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: With approval of the major advisor, students may elect to take up to 6 graduate credits outside the field of music.

Accreditation: This degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Study focuses on performance of the major instrument, the solo and ensemble literature of the instrument, and academic support areas in music.

Job Prospects: The program prepares musicians for either professional activity or doctoral study.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and
Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

Applications are processed as they arrive. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

Bachelor's Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:
TOEFL: 75 iBT or 537 PBT minimum

Audition: See www.temple.edu/boyer for audition repertoire requirements

Resume: Current resume required.

Transfer Credit: A student who wishes to transfer credit should speak with her/his academic advisor and obtain a “Request for Transfer of Graduate Credit” form, found in TUportal under the Tools tab within “University Forms.” Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College’s Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:
Number of Didactic Credits Required Beyond the Baccalaureate: 30

Required Courses:

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<td>MUSC 8504</td>
<td>Instrumental Major</td>
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<tr>
<td>MUSC 8510</td>
<td>Instrumental Ensemble (2 terms) ¹</td>
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<td>MUSC 8514</td>
<td>Instrumental Major</td>
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<td>MUSC 8524</td>
<td>Instrumental Major</td>
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<tr>
<td>MUSC 8584</td>
<td>Instrumental Major (Recital)</td>
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<td>MUST 8701</td>
<td>Research in Music</td>
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Electives ² 8

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¹ M.M. candidates must be available for ensemble assignments, which are determined by the department chair and may exceed curricular requirements.

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Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

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Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

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   OR

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The written project must be submitted to the Department of Instrumental Studies no later than November 1 for an anticipated December graduation or April 1 for an anticipated May graduation. Documents are distributed among the departmental faculty for review and a grade of either “pass” or “fail.” A passing grade from a majority (and no fewer than two) of the department’s graduate faculty members is required. Students who do not pass are told what needs to be fixed (content, grammar, etc.) and, using whatever resources they have (e.g., the University's Writing Center), prepare and submit a revision that receives a passing grade. In order for a student to graduate on schedule, any revision that is required must receive a passing grade before the deadline by which names must be submitted for graduation.

Public Recital:
Performance majors present a public recital as the culminating event for the master's degree (MUSC 8984). Graduation recitals are typically one hour in length; presented on-campus in either Rock Hall or Klein Recital Hall; and adjudicated by two full-time music faculty members. The student must show evidence through Temple University transcript records of having taken private lessons up to the time of the graduation recital. Students who wish to play a recital in the early Fall should plan to register for and complete the final term of lessons during the preceding Summer months.

A Recital Permission Form indicating the private teacher's approval for performance of the graduation recital must be signed by the private teacher and submitted six weeks prior to the recital. (If the recital is in the first five weeks of the Spring term, the form must be submitted two weeks before the end of the Fall term.) If required by the private teacher, a Recital Permission Jury must be scheduled at least four weeks prior to the recital. If the form is not submitted or a required jury is not scheduled, the department reserves the right to cancel or postpone the recital.

Contacts
Department Web Address:
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

Department Information:
Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
eschwein@temple.edu
215-204-5527

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Music Performance/Harp, M.M.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program

The master’s degree in Harp Performance develops expertise beyond baccalaureate-level achievement. Students specialize in the study of the major instrument and take courses outside the major area that support advanced musical and academic development. The Department of Instrumental Studies provides the potential professional performer and/or teacher with the finest instrumental training within the context of a comprehensive university. Students study privately with professional artist-teachers and enjoy opportunities for performance in numerous large and chamber music ensembles.

Time Limit for Degree Completion: 6 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: With approval of the major advisor, students may elect to take up to 6 graduate credits outside the field of music.

Accreditation: This degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Study focuses on performance of the major instrument, the solo and ensemble literature of the instrument, and academic support areas in music.

Job Prospects: The program prepares musicians for either professional activity or doctoral study.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer’s website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master’s students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

Applications are processed as they arrive. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant’s abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

Bachelor’s Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:

TOEFL: 75 iBT or 537 PBT minimum

Audition: See www.temple.edu/boyer for audition repertoire requirements.

Resume: Current resume required.

Transfer Credit: A student who wishes to transfer credit should speak with her/his academic advisor and obtain a “Request for Transfer of Graduate Credit” form, found in TUPortal under the Tools tab within “University Forms.” Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College’s Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.
Program Requirements

General Program Requirements:
Number of Didactic Credits Required Beyond the Baccalaureate: 30

Required Courses:

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<td>Instrumental Ensemble (2 terms) 1</td>
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<tr>
<td>MUSC 8504</td>
<td>Instrumental Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 8510</td>
<td>Instrumental Ensemble (2 terms) 1</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 8514</td>
<td>Instrumental Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 8524</td>
<td>Instrumental Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 8584</td>
<td>Instrumental Major (Recital)</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8701</td>
<td>Research in Music</td>
<td>3</td>
</tr>
</tbody>
</table>

Select one of the following:

- MUST 8742 Seminar in Theoretical Analysis
- MUST 8743 Seminar in Stylistic Analysis
- MUST 8744 Seminar in Stylistic Analysis
- MUST 8745 Seminar in Stylistic Analysis
- MUST 8746 Seminar in Stylistic Analysis
- MUST 8747 Aesthetics of Music
- MUST 8748 Seminar in Post-Tonal Theory
- MUST 8749 Current Topics in Musicology and Theory

Electives 2 8

Total Credit Hours 30

1 M.M. candidates must be available for ensemble assignments, which are determined by the department chair and may exceed curricular requirements.

2 Select from Music, Music Education, Music Studies, or other graduate departments. At least 3 credits must be in academic, non-performance coursework. Advisor approval required.

Additional Requirements:

All degree credits are to be earned at Temple University.

Diagnostic Examinations:

All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a "Credit / No Credit" basis, and the official university transcript will indicate "CR" (for "Credit," meaning that the deficiency has been satisfied) or "NC" (for "No Credit," meaning that the deficiency has not been satisfied). Students must have a "B-" or better average in any remedial course or section to earn the grade of "Credit" and to satisfy the requirement. Students who earn a grade of "NC" (that is, having a class average below "B-") must retake that course or section until an average of "B-" or higher is achieved and a grade of "CR" is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remediation coursework during their first academic year of study. An exception may be granted for part-time students. Master of Music students may neither schedule graduation recitals nor take final comprehensive master's examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUST 5001</td>
<td>Diatonic Harm. Review</td>
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<td>MUST 5002</td>
<td>Chromatic Harm. Review</td>
<td>1</td>
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<td>MUST 5003</td>
<td>Counterpoint Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5004</td>
<td>Grad Aural Theory Review</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
- received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

Professional Development Policy:

In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and
open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:
1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.
2. Participation: Master's degree candidates in wind, brass, and percussion instruments must be available for ensemble assignments at the discretion of the department chair, including participation beyond curricular requirements.
3. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

University Orchestra:
At the master's degree level, all bowed string majors must perform in the University Orchestra each term they receive lessons.

Independent Study Courses:
Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:
All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:
Weekly one-hour private lessons are provided for all matriculated master's and doctoral performance majors in good standing, provided at least three additional credits of programmatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

Private applied lessons beyond the four-term requirement currently in effect for graduate performance students may be extended with the permission of the jury, department chair, and the Associate Dean or Dean of the Boyer College of Music and Dance.

Recital Extension:
Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a "Credit/No Credit" basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of "CR." Credit derived from Recital Extension will not be counted toward degree requirements.

1. Recital Extension Fees: Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.
2. Exceptions to Recital Extension:
a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.
3. Failure to Present Recital: The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

Incompletes:
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:
Comprehensive Final Project:
Students must maintain a list of all literature, including solos, etudes, and excerpts, performed each term in lessons, using a printed form provided by the department. During the final term of study, students are required to submit a three-part written project. Part 1 includes lists of music studied/performe in all four terms of lessons; the lists must be signed by the studio teacher. Part 2 includes program notes or background information for any two of the pieces listed in Part 1. The notes should be approximately 500 words each and must contain at least three recognized references, such as Baker's and New Grove. Any online resource must be documented and recognized as appropriate and authoritative. Part 3 is to consist of one of the following:

1. A discussion of a third piece from the submitted lists or one movement of a multi-movement piece from the lists: The length of the piece or movement being discussed should be no less than 8-10 minutes. This discussion must form a paper of no less than 2,000 words. Topics may include (but are not limited to) historical perspectives, performance and performance practice issues, instrumental technical issues, the importance or role of the piece in the literature for the student's instrument, etc. This discussion must be presented as a formal paper with supporting information, including resources, charts, and the like.

OR

2. A theoretical analysis of one of the listed pieces or one movement of a multi-movement piece from the lists: The length of the piece or movement being analyzed should be no less than 8-10 minutes. This
analysis should address form, basic harmonic events, large-scale phrasing, performance practice issues, etc., as outlined in a rubric provided by the department.

The written project must be submitted to the Department of Instrumental Studies no later than November 1 for an anticipated December graduation or April 1 for an anticipated May graduation. Documents are distributed among the departmental faculty for review and a grade of either “pass” or “fail.” A passing grade from a majority (and no fewer than two) of the department’s graduate faculty members is required. Students who do not pass are told what needs to be fixed (content, grammar, etc.) and, using whatever resources they have (e.g., the University’s Writing Center), prepare and submit a revision that receives a passing grade. In order for a student to graduate on schedule, any revision that is required must receive a passing grade before the deadline by which names must be submitted for graduation.

Public Recital:
Performance majors present a public recital as the culminating event for the master’s degree (MUSC 8984). Graduation recitals are typically one hour in length; presented on-campus in either Rock Hall or Klein Recital Hall; and adjudicated by three full-time music faculty members. The student must show evidence by Temple University transcript records of having taken private lessons up to the time of the graduation recital. Students who wish to play a recital in the early Fall should plan to register for and complete the final term of lessons during the preceding Summer months.

A Recital Permission Form indicating the private teacher’s approval for performance of the graduation recital must be signed by the private teacher and submitted six weeks prior to the recital. (If the recital is in the first five weeks of the Spring term, the form must be submitted two weeks before the end of the Fall term.) If required by the private teacher, a Recital Permission Jury must be scheduled at least four weeks prior to the recital. If the form is not submitted or a required jury is not scheduled, the department reserves the right to cancel or postpone the recital.

Contacts
Department Web Address:
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

Department Information:
Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
terell.stafford@temple.edu
215-204-5527

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Professor Jeffrey Solow
jeffrey.solow@temple.edu
215-204-5527

Chairperson:
Professor Terell Stafford
terell.stafford@temple.edu
215-204-8036

Music Performance/Harpsichord, M.M.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program
The master’s degree in Harpsichord Performance develops expertise beyond baccalaureate-level achievement. Students specialize in the study of the major instrument and take courses outside the major area that support advanced musical and academic development. The Department of Keyboard Instruction provides the potential professional performer and/or teacher with the finest instrumental training within the context of a comprehensive university. Students study privately with professional artist-teachers and enjoy opportunities for performance in numerous large and chamber music ensembles.

Time Limit for Degree Completion: 6 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: With the approval of the major advisor, students may elect to take up to 6 graduate credits outside the field of music.

Accreditation: This degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Study focuses on performance of the major instrument, the solo and ensemble literature of the instrument, and academic support areas in music.

Job Prospects: The program prepares musicians for either professional activity or doctoral study.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer’s website. Typically these
Admission Requirements and Deadlines

Application Deadline:

Fall: March 1  
Spring: November 1  

Applications are processed as they arrive. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

Bachelor's Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:

TOEFL: 75 iBT or 537 PBT minimum

Audition: See www.temple.edu/boyer for audition repertoire requirements.

Resume: Current resume required.

Transfer Credit: A student who wishes to transfer credit should speak with her/his academic advisor and obtain a “Request for Transfer of Graduate Credit” form, found in TPortal under the Tools tab within “University Forms.” Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College’s Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:

Number of Didactic Credits Required Beyond the Baccalaureate: 30

Required Courses:

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<th>Credit Hours</th>
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<tr>
<td>MUSC 8441</td>
<td>Seminar in Early Keyboard Instruments I</td>
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<tr>
<td>MUSC 8477</td>
<td>Baroque Keyboard Performance Practice</td>
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<td>MUSC 8500</td>
<td>Instrumental Ensemble 1</td>
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<td>MUSC 8904</td>
<td>Harpsichord Major</td>
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<td>Harpsichord Major</td>
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<td>MUST 8701</td>
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Recommended course includes:

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<tbody>
<tr>
<td>MUSC 8478</td>
<td>Classical Keyboard Performance Practice</td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours 30

1. M.M. candidates must be available for ensemble assignments, which are determined by the department chair and may exceed curricular requirements.

2. Select from Music, Music Education, Music Studies, or other graduate departments. At least 3 credits must be in academic, non-performance coursework. Advisor approval required.

Additional Requirements:

All degree credits are to be earned at Temple University.

Diagnostic Examinations:

All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a "Credit / No Credit" basis, and the official university transcript will indicate "CR" (for "Credit," meaning that the deficiency has been satisfied) or "NC" (for "No Credit," meaning that the deficiency has not been satisfied). Students must have a "B-" or better average in any remedial course or section to earn the grade of "Credit" and to satisfy the requirement.

Students who earn a grade of "NC" (that is, having a class average
below "B-" must retake that course or section until an average of "B-" or higher is achieved and a grade of "CR" is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remediation coursework during their first academic year of study. An exception may be granted for part-time students. Master of Music students may neither schedule graduation recitals nor take final comprehensive master's examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

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<tr>
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<td>MUST 5003</td>
<td>Counterpoint Review</td>
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</tr>
<tr>
<td>MUST 5004</td>
<td>Grad Aural Theory Review</td>
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</table>

B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
- received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

Professional Development Policy:

In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:

1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.

2. Participation: Master's degree candidates in wind, brass, and percussion instruments must be available for ensemble assignments at the discretion of the department chair, including participation beyond curricular requirements.

3. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

Independent Study Courses:

Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:

All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:

Weekly one-hour private lessons are provided for all matriculated master's and doctoral performance majors in good standing, provided at least three additional credits of programatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

Private applied lessons beyond the four-term requirement currently in effect for graduate performance students may be extended with the permission of the jury, department chair, and the Associate Dean or Dean of the Boyer College of Music and Dance.

Recital Extension:

Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a "Credit/No Credit" basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will
be issued a grade of “CR.” Credit derived from Recital Extension will not be counted toward degree requirements.

1. Recital Extension Fees: Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.

2. Exceptions to Recital Extension:
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.

3. Failure to Present Recital: The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

Incompletes:
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:
Comprehensive Final Project:
All candidates for the Master of Music degree must submit a list of all repertoire studied with their studio teacher(s) while enrolled in the M.M. program. Students choose two stylistically contrasting pieces from their final recital program. (Students enrolled in programs without a recital requirement, such as Opera Coaching, choose two contrasting works studied with their assigned studio teacher.) Students choose to give either an oral presentation or submit a written document that addresses at least several of the following topics:

- Form and harmonic language of the piece
- Historical background of the work
- Aspects of the composer’s style
- Relationship to other keyboard works by the composer
- Performance practice considerations
- Specific technical problems and their solutions
- Other relevant information about the piece

The goal of the presentation or paper is to demonstrate cumulative knowledge and skills gained during the course of study at the master’s level. Courses taken in research, theory, history, pedagogy, and performance practice can inform the discussion of the particular works chosen by the student.

If the student selects the oral option, the presentation is scheduled during end-of-term juries. At least two representatives from the graduate faculty in the Department of Keyboard Instruction adjudicate the oral presentation. The session should last approximately 20 minutes with some extra time for questions from the faculty members following the presentation. Students can perform small sections of the work if germane to their discussion. Lecture notes with cited sources for information should be submitted to the Department of Keyboard Instruction no later than ten days before juries.

The written document, if chosen, should be a research-quality paper of approximately 10 pages, double-spaced, and include appropriate references. This should be submitted to the Department of Keyboard Instruction no later than April 1 for a May graduation or November 15 for a January graduation. At least two graduate faculty members from the Department of Keyboard Instruction read the paper and confer about the final decision. Students must follow the guidelines for academic honesty found in the Graduate Bulletin.

Each reader grades the project as either “pass” or “fail.” If the student fails, s/he is not allowed to graduate at the end of that term. Another document may be submitted after suggestions for improvement by the Department of Keyboard Instruction faculty, or another oral presentation is arranged and graded as before. If the student fails a second time, s/he is dismissed from the degree program.

Public Recital:
Performance majors present a public recital as the culminating event for the master’s degree (MUSC 8984). Graduation recitals are typically one hour in length; presented on-campus in either Rock Hall or Klein Recital Hall; and adjudicated by three full-time music faculty members. The student must show evidence through Temple University transcript records of having taken private lessons up to the time of the graduation recital. Students who wish to play a recital in the early Fall should plan to register for and complete the final term of lessons during the preceding Summer months.

A recital approval jury must be formed to demonstrate the student’s ability to perform the degree recital successfully. Normally, this occurs at the preceding term’s jury. If, by departmental approval, this jury does not occur, then a jury must be scheduled at least four weeks prior to the recital. If the jury is not successfully completed by that time, the department reserves the right to cancel the recital date. Further details are available from the department chair.

Contacts
Department Web Address:
http://www.temple.edu/boyer/academicprograms/keyboard-studies/

Department Information:
Dept. of Keyboard Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
charles.abramovic@temple.edu
215-204-7388

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
About the Program

The master’s degree in Oboe Performance develops expertise beyond baccalaureate-level achievement. Students specialize in the study of the major instrument and take courses outside the major area that support advanced musical and academic development. The Department of Instrumental Studies provides the potential professional performer and/or teacher with the finest instrumental training within the context of a comprehensive university. Students study privately with professional artist-teachers and enjoy opportunities for performance in numerous large and chamber music ensembles.

Time Limit for Degree Completion: 6 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: With approval of the major advisor, students may elect to take up to 6 graduate credits outside the field of music.

Accreditation: This degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Study focuses on performance of the major instrument, the solo and ensemble literature of the instrument, and academic support areas in music.

Job Prospects: The program prepares musicians for either professional activity or doctoral study.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master’s students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

Applications are processed as they arrive. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2
From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

Bachelor's Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:

TOEFL: 75 iBT or 537 PBT minimum

Audition: See www.temple.edu/boyer for audition repertoire requirements.

Resume: Current resume required.

Transfer Credit: A student who wishes to transfer credit should speak with her/his academic advisor and obtain a "Request for Transfer of Graduate Credit" form, found in TUportal under the Tools tab within "University Forms." Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College’s Optimum Enrollment
Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

**Program Requirements**

**General Program Requirements:**
*Number of Didactic Credits Required Beyond the Baccalaureate: 30*

**Required Courses:**

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tr>
<td>MUSC 8500</td>
<td>Instrumental Ensemble (2 terms)</td>
<td>2</td>
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<tr>
<td>MUSC 8504</td>
<td>Instrumental Major</td>
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</tr>
<tr>
<td>MUSC 8510</td>
<td>Instrumental Ensemble (2 terms)</td>
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</tr>
<tr>
<td>MUSC 8514</td>
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<td>MUSC 8584</td>
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<td>MUST 8701</td>
<td>Research in Music</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8742</td>
<td>Seminar in Theoretical Analysis</td>
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</tr>
<tr>
<td>MUST 8743</td>
<td>Seminar in Stylistic Analysis</td>
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</tr>
<tr>
<td>MUST 8744</td>
<td>Seminar in Stylistic Analysis</td>
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<td>MUST 8745</td>
<td>Seminar in Stylistic Analysis</td>
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</tr>
<tr>
<td>MUST 8746</td>
<td>Seminar in Stylistic Analysis</td>
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<td>MUST 8747</td>
<td>Aesthetics of Music</td>
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</tr>
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<td>MUST 8748</td>
<td>Seminar in Post-tonal Theory</td>
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</tr>
<tr>
<td>MUST 8749</td>
<td>Current Topics in Musicology and Theory</td>
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<tr>
<td>Electives</td>
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<td>8</td>
</tr>
<tr>
<td>Total Credit Hours</td>
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</tr>
</tbody>
</table>

1. M.M. candidates must be available for ensemble assignments, which are determined by the department chair and may exceed curricular requirements.

2. Select from Music, Music Education, Music Studies, or other graduate departments. At least 3 credits must be in academic, non-performance coursework. Advisor approval required.

**Additional Requirements:**

All degree credits are to be earned at Temple University.

**Diagnostic Examinations:**

All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a "Credit / No Credit" basis, and the official university transcript will indicate "CR" (for "Credit," meaning that the deficiency has been satisfied) or "NC" (for "No Credit," meaning that the deficiency has not been satisfied). Students must have a "B-" or better average in any remedial course or section to earn the grade of "Credit" and to satisfy the requirement. Students who earn a grade of "NC" (that is, having a class average below "B-") must retake that course or section until an average of "B-" or higher is achieved and a grade of "CR" is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remedial coursework during their first academic year of study. An exception may be granted for part-time students. Master of Music students may neither schedule graduation recitals nor take final comprehensive master’s examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

**A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills**

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>MUST 5001</td>
<td>Diatonic Harm. Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5002</td>
<td>Chromatic Harm. Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5003</td>
<td>Counterpoint Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5004</td>
<td>Grad Aural Theory Review</td>
<td>3</td>
</tr>
</tbody>
</table>

**B. Diagnostic Examination in Music History**

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections is enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

**C. Conditions for Exemption from Diagnostic Examinations**

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
- received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

**Professional Development Policy:**

In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of
Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

**Performing Ensembles:**

1. **Touring:** All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.

2. **Participation:** Master’s degree candidates in wind, brass, and percussion instruments must be available for ensemble assignments at the discretion of the department chair, including participation beyond curricular requirements.

3. **Non-Credit Participation:** With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

**Independent Study Courses:**

Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

**Acceptable English:**

All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

**Graduate Private Lesson Policy:**

Weekly one-hour private lessons are provided for all matriculated master's and doctoral performance majors in good standing, provided at least three additional credits of programmatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

Private applied lessons beyond the four-term requirement currently in effect for graduate performance students may be extended with the permission of the jury, department chair, and the Associate Dean or Dean of the Boyer College of Music and Dance.

**Recital Extension:**

Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented.

This course will be offered on a “Credit/No Credit” basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will not be issued a grade of "CR." Credit derived from Recital Extension will not be counted toward degree requirements.

1. **Recital Extension Fees:** Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.

2. **Exceptions to Recital Extension:**
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.

   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.

3. **Failure to Present Recital:** The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

**Incompletes:**

All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

**Culminating Events:**

**Comprehensive Final Project:**

Students must maintain a list of all literature, including solos, etudes, and excerpts, performed each term in lessons, using a printed form provided by the department. During the final term of study, students are required to submit a three-part written project. Part 1 includes lists of music studied/performing in all four terms of lessons; the lists must be signed by the studio teacher. Part 2 includes program notes or background information for any two of the pieces listed in Part 1. The notes should be approximately 500 words each and must contain at least three recognized references, such as Baker's and New Grove. Any online resource must be documented and recognized as appropriate and authoritative. Part 3 is to consist of one of the following:

1. A discussion of a third piece from the submitted lists or one movement of a multi-movement piece from the lists: The length of the piece or movement being discussed should be no less than 8-10 minutes. This discussion must form a paper with supporting information, including resources, charts, and the like.

   OR

2. A theoretical analysis of one of the listed pieces or one movement of a multi-movement piece from the lists: The length of the piece or movement being analyzed should be no less than 8-10 minutes. This analysis should address form, basic harmonic events, large-scale
Public Recital:
Performance majors present a public recital as the culminating event for the master's degree (MUSC 8984). Graduation recitals are typically one hour in length; presented on-campus in either Rock Hall or Klein Recital Hall; and adjudicated by three full-time music faculty members. The student must show evidence through Temple University transcript records of having taken private lessons up to the time of the graduation recital. Students who wish to play a recital in the early Fall should plan to register for and complete the final term of lessons during the preceding Summer months.

A Recital Permission Form indicating the private teacher's approval for performance of the graduation recital must be signed by the private teacher and submitted six weeks prior to the recital. (If the recital is in the first five weeks of the Spring term, the form must be submitted two weeks before the end of the Fall term.) If required by the private teacher, a Recital Permission Jury must be scheduled at least four weeks prior to the recital. If the form is not submitted or a required jury is not scheduled, the department reserves the right to cancel or postpone the recital.

Contacts
Department Web Address:
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

Department Information:
Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
eschwein@temple.edu
215-204-5527

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Eric Schweingruber
eschwein@temple.edu
215-204-9792

Chairperson:
Professor Terell Stafford
terrell.stafford@temple.edu
215-204-8036

Music Performance/Percussion, M.M.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program
The master's degree in Percussion Performance develops expertise beyond baccalaureate-level achievement. Students specialize in the study of the major instrument and take courses outside the major area that support advanced musical and academic development. The Department of Instrumental Studies provides the potential professional performer and/or teacher with the finest instrumental training within the context of a comprehensive university. Students study privately with professional artist-teachers and enjoy opportunities for performance in numerous large and chamber music ensembles.

Time Limit for Degree Completion: 6 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: With approval of the major advisor, students may elect to take up to 6 graduate credits outside the field of music.

Accreditation: This degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Study focuses on performance of the major instrument, the solo and ensemble literature of the instrument, and academic support areas in music.

Job Prospects: The program prepares musicians for either professional activity or doctoral study.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and...
Schools, Colleges, and Divisions

Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

Applications are processed as they arrive. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

Bachelor's Degree in Discipline/Related Discipline: A degree in Music is expected.

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Audition: See www.temple.edu/boyer for audition repertoire requirements.

Resume: Current resume required.

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Program Requirements

General Program Requirements:

Number of Didactic Credits Required Beyond the Baccalaureate: 30

Required Courses:

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<tr>
<td>MUSC 8504</td>
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<td>3</td>
</tr>
<tr>
<td>MUSC 8510</td>
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</tr>
<tr>
<td>MUSC 8514</td>
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<td>MUSC 8524</td>
<td>Instrumental Major</td>
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<td>MUSC 8584</td>
<td>Instrumental Major (Recital)</td>
<td>3</td>
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<tr>
<td>MUST 8701</td>
<td>Research in Music</td>
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<tr>
<td>MUST 8742</td>
<td>Seminar in Theoretical Analysis</td>
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<tr>
<td>MUST 8743</td>
<td>Seminar in Stylistic Analysis</td>
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<tr>
<td>MUST 8744</td>
<td>Seminar in Stylistic Analysis</td>
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<tr>
<td>MUST 8745</td>
<td>Seminar in Stylistic Analysis</td>
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<tr>
<td>MUST 8746</td>
<td>Seminar in Stylistic Analysis</td>
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<td>MUST 8747</td>
<td>Aesthetics of Music</td>
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</tr>
<tr>
<td>MUST 8748</td>
<td>Seminar in Post-Tonal Theory</td>
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<tr>
<td>MUST 8749</td>
<td>Current Topics in Musicology and Theory</td>
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<tr>
<td>Electives</td>
<td></td>
<td>10</td>
</tr>
</tbody>
</table>

Recommended courses include:

MUSC 8551 Percussion History, Development and Performance Practices
MUSC 8552 Percussion Pedagogy
MUSC 8554 Orchestral Repertoire: Percussion

Total Credit Hours: 30

1 M.M. candidates must be available for ensemble assignments, which are determined by the department chair and may exceed curricular requirements.

2 Select from Music, Music Education, Music Studies, or other graduate departments. At least 3 credits must be in academic, non-performance coursework. Advisor approval required.

Additional Requirements:

All degree credits are to be earned at Temple University.

Diagnostic Examinations:

All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.
Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a "Credit / No Credit" basis, and the official university transcript will indicate "CR" (for "Credit," meaning that the deficiency has been satisfied) or "NC" (for "No Credit," meaning that the deficiency has not been satisfied). Students must have a "B-" or better average in any remedial course or section to earn the grade of "Credit" and to satisfy the requirement. Students who earn a grade of "NC" (that is, having a class average below "B-") must retake that course or section until an average of "B-" or higher is achieved and a grade of "CR" is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remediation coursework during their first academic year of study. An exception may be granted for part-time students. Master of Music students may neither schedule graduation recitals nor take final comprehensive master's examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

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<td>1</td>
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<td>Chromatic Harm. Review</td>
<td>1</td>
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<tr>
<td>MUST 5003</td>
<td>Counterpoint Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5004</td>
<td>Grad Aural Theory Review</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
- received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

Professional Development Policy:

In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:

1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.

2. Participation: Master's degree candidates in wind, brass, and percussion instruments must be available for ensemble assignments at the discretion of the department chair, including participation beyond curricular requirements.

3. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

Independent Study Courses:

Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:

All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:

Weekly one-hour private lessons are provided for all matriculated master's and doctoral performance majors in good standing, provided at least three additional credits of programatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

Private applied lessons beyond the four-term requirement currently in effect for graduate performance students may be extended with the
permission of the jury, department chair, and the Associate Dean or Dean of the Boyer College of Music and Dance.

Recital Extension:
Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a "Credit/No Credit" basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of "CR." Credit derived from Recital Extension will not be counted toward degree requirements.

1. Recital Extension Fees: Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.

2. Exceptions to Recital Extension:
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.

3. Failure to Present Recital: The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

Incompletes:
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:
Comprehensive Final Project:
Students must maintain a list of all literature, including solos, etudes, and excerpts, performed each term in lessons, using a printed form provided by the department. During the final term of study, students are required to submit a three-part written project. Part 1 includes lists of music studied/ performed in all four terms of lessons; the lists must be signed by the studio teacher. Part 2 includes program notes or background information for any two of the pieces listed in Part 1. The notes should be approximately 500 words each and must contain at least three recognized references, such as Baker's and New Grove. Any online resource must be documented and recognized as appropriate and authoritative. Part 3 is to consist of one of the following:

1. A discussion of a third piece from the submitted lists or one movement of a multi-movement piece from the lists: The length of the piece or movement being discussed should be no less than 8-10 minutes. This discussion must form a paper of no less than 2,000 words. Topics may include (but are not limited to) historical perspectives, performance and performance practice issues, instrumental technical issues, the importance or role of the piece in the literature for the student's instrument, etc. This discussion must be presented as a formal paper with supporting information, including resources, charts, and the like.

OR

2. A theoretical analysis of one of the listed pieces or one movement of a multi-movement piece from the lists: The length of the piece or movement being analyzed should be no less than 8-10 minutes. This analysis should address form, basic harmonic events, large-scale phrasing, performance practice issues, etc., as outlined in a rubric provided by the department.

The written project must be submitted to the Department of Instrumental Studies no later than November 1 for an anticipated December graduation or April 1 for an anticipated May graduation. Documents are distributed among the departmental faculty for review and a grade of either "pass" or "fail." A passing grade from a majority (and no fewer than two) of the department's graduate faculty members is required. Students who do not pass are told what needs to be fixed (content, grammar, etc.) and, using whatever resources they have (e.g., the University's Writing Center), prepare and submit a revision that receives a passing grade. In order for a student to graduate on schedule, any revision that is required must receive a passing grade before the deadline by which names must be submitted for graduation.

Public Recital:
Performance majors present a public recital as the culminating event for the master's degree (MUSC 8984). Graduation recitals are typically one hour in length; presented on-campus in either Rock Hall or Klein Recital Hall; and adjudicated by three full-time music faculty members. The student must show evidence through Temple University transcript records of having taken private lessons up to the time of the graduation recital. Students who wish to play a recital in the early Fall should plan to register for and complete the final term of lessons during the preceding Summer months.

A Recital Permission Form indicating the private teacher's approval for performance of the graduation recital must be signed by the private teacher and submitted six weeks prior to the recital. (If the recital is in the first five weeks of the Spring term, the form must be submitted two weeks before the end of the Fall term.) If required by the private teacher, a Recital Permission Jury must be scheduled at least four weeks prior to the recital. If the form is not submitted or a required jury is not scheduled, the department reserves the right to cancel or postpone the recital.

Contacts
Department Web Address:
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

Department Information:
Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
eschwein@temple.edu
215-204-5527

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/
Music Performance/Piano, M.M.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program
The master's degree in Piano Performance develops expertise beyond baccalaureate-level achievement. Students specialize in the study of the major instrument and take courses outside the major area that support advanced musical and academic development. The Department of Keyboard Instruction provides the potential professional performer and/or teacher with the finest instrumental training within the context of a comprehensive university. Students study privately with professional artist-teachers and enjoy opportunities for performance in solo recitals, as well as in large and chamber music ensembles.

Time Limit for Degree Completion: 6 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: With approval of the major advisor, students may elect to take up to 6 graduate credits outside the field of music.

Accreditation: This degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Study focuses on performance of the major instrument, the solo and ensemble literature of the instrument, and academic support areas in music.

Job Prospects: The program prepares musicians for either professional activity or doctoral study.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:
Fall: March 1
Spring: November 1

Applications are processed as they arrive. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

Bachelor's Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:
TOEFL: 75 iBT or 537 PBT minimum

Audition: See www.temple.edu/boyer for audition repertoire requirements.

Resume: Current resume required.

Transfer Credit: A student who wishes to transfer credit should speak with her/his academic advisor and obtain a "Request for Transfer of Graduate Credit" form, found in TUportal under the Tools tab within "University Forms." Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of
success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:
Number of Didactic Credits Required Beyond the Baccalaureate: 30

Required Courses:

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<td>Piano Major</td>
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<td>Piano Pedagogy I</td>
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<td>Piano Pedagogy II</td>
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<td>MUSC 8477</td>
<td>Baroque Keyboard Performance Practice</td>
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<td>MUSC 8478</td>
<td>Classical Keyboard Performance Practice</td>
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<td>MUSC 8484</td>
<td>Piano Major-Recital</td>
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<td>Instrumental Ensemble 1</td>
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<td>MUST 8701</td>
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1. M.M. candidates must be available for ensemble assignments, which are determined by the department chair and may exceed curricular requirements.
2. Select from Music, Music Education, Music Studies, or other graduate departments. Advisor approval required.

Additional Requirements:

All degree credits are to be earned at Temple University.

Diagnostic Examinations:
All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

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Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

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A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

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B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

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- received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

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1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.
2. Participation: Master's degree candidates in wind, brass, and percussion instruments must be available for ensemble assignments at the discretion of the department chair, including participation beyond curricular requirements.
3. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

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Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

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Private applied lessons beyond the four-term requirement currently in effect for graduate performance students may be extended with the permission of the jury, department chair, and the Associate Dean or Dean of the Boyer College of Music and Dance.

Recital Extension:
Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a "Credit/No Credit" basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of "CR." Credit derived from Recital Extension will not be counted toward degree requirements.

1. Recital Extension Fees: Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.
2. Exceptions to Recital Extension:
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.
3. Failure to Present Recital: The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

Incompletes:
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:
Comprehensive Final Project:
All candidates for the Master of Music degree must submit a list of all repertoire studied with their studio teacher(s) while enrolled in the M.M. program. Students choose two stylistically contrasting pieces from their final recital program. (Students enrolled in programs without a recital requirement, such as Opera Coaching, choose two contrasting works studied with their assigned studio teacher.) Students choose to give either an oral presentation or submit a written document that addresses at least several of the following topics:

- Form and harmonic language of the piece
- Historical background of the work
- Aspects of the composer's style
- Relationship to other keyboard works by the composer
- Performance practice considerations
- Specific technical problems and their solutions
- Other relevant information about the piece

The goal of the presentation or paper is to demonstrate cumulative knowledge and skills gained during the course of study at the master's level. Courses taken in research, theory, history, pedagogy, and performance practice can inform the discussion of the particular works chosen by the student.

If the student selects the oral option, the presentation is scheduled during end-of-term juries. At least two representatives from the graduate faculty in the Department of Keyboard Instruction adjudicate the oral presentation. The session should last approximately 20 minutes with some extra time for questions from the faculty members following the presentation. Students can perform small sections of the work if germane
to their discussion. Lecture notes with cited sources for information should be submitted to the Department of Keyboard Instruction no later than ten days before juries.

The written document, if chosen, should be a research-quality paper of approximately 10 pages, double-spaced, and include appropriate references. This should be submitted to the Department of Keyboard Instruction no later than April 1 for a May graduation or November 15 for a January graduation. At least two graduate faculty members from the Department of Keyboard Instruction read the paper and confer about the final decision. Students must follow the guidelines for academic honesty found in the Graduate Bulletin.

Each reader grades the project as either “pass” or “fail.” If the student fails, s/he is not allowed to graduate at the end of that term. Another document may be submitted after suggestions for improvement by the Department of Keyboard Instruction faculty, or another oral presentation is arranged and graded as before. If the student fails a second time, s/he is dismissed from the degree program.

Public Recital:
Performance majors present a public recital as the culminating event for the master’s degree (MUSC 8984). Graduation recitals are typically one hour in length; presented on-campus in either Rock Hall or Klein Recital Hall; and adjudicated by three full-time music faculty members. The student must show evidence through Temple University transcript records of having taken private lessons up to the time of the graduation recital. Students who wish to play a recital in the early Fall should plan to register for and complete the final term of lessons during the preceding Summer months.

A recital approval jury must be formed to demonstrate the student’s ability to perform the degree recital successfully. Normally, this occurs at the preceding term’s jury. If, by departmental approval, this jury does not occur, then a jury must be scheduled at least four weeks prior to the recital. If the jury is not successfully completed by that time, the department reserves the right to cancel the recital date. Further details are available from the department chair.

Contacts
Department Web Address:
http://www.temple.edu/boyer/academicprograms/keyboard-studies/

Department Information:
Dept. of Keyboard Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
charles.abramovic@temple.edu
215-204-7388

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu

Music Performance/Saxophone, M.M.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program
The master’s degree in Saxophone Performance develops expertise beyond baccalaureate-level achievement. Students specialize in the study of the major instrument and take courses outside the major area that support advanced musical and academic development. The Department of Instrumental Studies provides the potential professional performer and/or teacher with the finest instrumental training within the context of a comprehensive university. Students study privately with professional artist-teachers and enjoy opportunities for performance in numerous large and chamber music ensembles.

Time Limit for Degree Completion: 6 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: With approval of the major advisor, students may elect to take up to 6 graduate credits outside the field of music.

Accreditation: This degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Study focuses on performance of the major instrument, the solo and ensemble literature of the instrument, and academic support areas in music.

Job Prospects: The program prepares musicians for either professional activity or doctoral study.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate
Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

**Admission Requirements and Deadlines**

**Application Deadline:**

- **Fall:** March 1
- **Spring:** November 1

Applications are processed as they arrive. Late applications may be considered for admission.

**APPLY ONLINE to this graduate program.**

**Letters of Reference:**

- **Number Required:** 2

**From Whom:** Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

**Courses Required for Admission Consideration:** All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

**Bachelor's Degree in Discipline/Related Discipline:** A degree in Music is expected.

**Statement of Goals:** Include your special interests within the discipline and expectations for the program.

**Standardized Test Scores:**

TOEFL: 75 iBT or 537 PBT minimum

**Audition:** See www.temple.edu/boyer for audition repertoire requirements.

**Resume:** Current resume required.

**Transfer Credit:** A student who wishes to transfer credit should speak with her/his academic advisor and obtain a "Request for Transfer of Graduate Credit" form, found in TPortal under the Tools tab within "University Forms." Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

**Other:** Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

**Program Requirements**

**General Program Requirements:**

**Number of Didactic Credits Required Beyond the Baccalaureate:** 30

**Required Courses:**

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<thead>
<tr>
<th>Code</th>
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<th>Credit Hours</th>
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<tbody>
<tr>
<td>MUSC 8500</td>
<td>Instrumental Ensemble (2 terms) (^1)</td>
<td>2</td>
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<tr>
<td>MUSC 8504</td>
<td>Instrumental Major</td>
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</tr>
<tr>
<td>MUSC 8510</td>
<td>Instrumental Ensemble (2 terms) (^1)</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 8514</td>
<td>Instrumental Major</td>
<td>3</td>
</tr>
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<td>MUSC 8524</td>
<td>Instrumental Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 8584</td>
<td>Instrumental Major (Recital)</td>
<td>3</td>
</tr>
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<td>MUST 8701</td>
<td>Research in Music</td>
<td>3</td>
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<td>Select one of the following:</td>
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<td>3</td>
</tr>
<tr>
<td>MUST 8742</td>
<td>Seminar in Theoretical Analysis</td>
<td></td>
</tr>
<tr>
<td>MUST 8743</td>
<td>Seminar in Stylistic Analysis</td>
<td></td>
</tr>
<tr>
<td>MUST 8744</td>
<td>Seminar in Stylistic Analysis</td>
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<td>MUST 8746</td>
<td>Seminar in Stylistic Analysis</td>
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<td>MUST 8747</td>
<td>Aesthetics of Music</td>
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<td>MUST 8748</td>
<td>Seminar in Post-Tonal Theory</td>
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<td>MUST 8749</td>
<td>Current Topics in Musicology and Theory</td>
<td></td>
</tr>
<tr>
<td>Electives (^2)</td>
<td></td>
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</tr>
<tr>
<td><strong>Total Credit Hours</strong></td>
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<td><strong>30</strong></td>
</tr>
</tbody>
</table>

\(^1\) M.M. candidates must be available for ensemble assignments, which are determined by the department chair and may exceed curricular requirements.

\(^2\) Select from Music, Music Education, Music Studies, or other graduate departments. At least 3 credits must be in academic, non-performance coursework. Advisor approval required.

**Additional Requirements:**

All degree credits are to be earned at Temple University.

**Diagnostic Examinations:**

All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a
Boyer College of Music and Dance believes that such experiences give remedial coursework are required. Theory remedial courses include:

During the first term of study. Examiners stipulate which section(s) not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>MUST 5001</td>
<td>Diatonic Harm. Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5002</td>
<td>Chromatic Harm. Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5003</td>
<td>Counterpoint Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5004</td>
<td>Grad Aural Theory Review</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
- received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

Professional Development Policy:

In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:

1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.

2. Participation: Master's degree candidates in wind, brass, and percussion instruments must be available for ensemble assignments at the discretion of the department chair, including participation beyond curricular requirements.

3. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

Independent Study Courses:

Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:

All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:

Weekly one-hour private lessons are provided for all matriculated master's and doctoral performance majors in good standing, provided at least three additional credits of programmatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

Private applied lessons beyond the four-term requirement currently in effect for graduate performance students may be extended with the permission of the jury, department chair, and the Associate Dean or Dean of the Boyer College of Music and Dance.

Recital Extension:

Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented.
This course will be offered on a "Credit/No Credit" basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of "CR." Credit derived from Recital Extension will not be counted toward degree requirements.

1. Recital Extension Fees: Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.

2. Exceptions to Recital Extension:
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.

3. Failure to Present Recital: The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

Incompletes:
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:
Comprehensive Final Project:
Students must maintain a list of all literature, including solos, etudes, and excerpts, performed each term in lessons, using a printed form provided by the department. During the final term of study, students are required to submit a three-part written project. Part 1 includes lists of music studied/performed in all four terms of lessons; the lists must be signed by the studio teacher. Part 2 includes program notes or background information for any two of the pieces listed in Part 1. The notes should be approximately 500 words each and must contain at least three recognized references, such as Baker's and New Grove. Any online resource must be documented and recognized as appropriate and authoritative. Part 3 is to consist of one of the following:

1. A discussion of a third piece from the submitted lists or one movement of a multi-movement piece from the lists: The length of the piece or movement being discussed should be no less than 8-10 minutes. This discussion must form a paper of no less than 2,000 words. Topics may include (but are not limited to) historical perspectives, performance and performance practice issues, instrumental technical issues, the importance or role of the piece in the literature for the student's instrument, etc. This discussion must be presented as a formal paper with supporting information, including resources, charts, and the like.

   OR

2. A theoretical analysis of one of the listed pieces or one movement of a multi-movement piece from the lists: The length of the piece or movement being analyzed should be no less than 8-10 minutes. This analysis should address form, basic harmonic events, large-scale phrasing, performance practice issues, etc., as outlined in a rubric provided by the department.

The written project must be submitted to the Department of Instrumental Studies no later than November 1 for an anticipated December graduation or April 1 for an anticipated May graduation. Documents are distributed among the departmental faculty for review and a grade of either "pass" or "fail." A passing grade from a majority (and no fewer than two) of the department's graduate faculty members is required. Students who do not pass are told what needs to be fixed (content, grammar, etc.) and, using whatever resources they have (e.g., the University's Writing Center), prepare and submit a revision that receives a passing grade. In order for a student to graduate on schedule, any revision that is required must receive a passing grade before the deadline by which names must be submitted for graduation.

Public Recital:
Performance majors present a public recital as the culminating event for the master's degree (MUSC 8984). Graduation recitals are typically one hour in length; presented on-campus in either Rock Hall or Klein Recital Hall; and adjudicated by two full-time music faculty members. The student must show evidence through Temple University transcript records of having taken private lessons up to the time of the graduation recital. Students who wish to play a recital in the early Fall should plan to register for and complete the final term of lessons during the preceding Summer months.

A Recital Permission Form indicating the private teacher's approval for performance of the graduation recital must be signed by the private teacher and submitted six weeks prior to the recital. (If the recital is in the first five weeks of the Spring term, the form must be submitted two weeks before the end of the Fall term.) If required by the private teacher, a Recital Permission Jury must be scheduled at least four weeks prior to the recital. If the form is not submitted or a required jury is not scheduled, the department reserves the right to cancel or postpone the recital.

Contacts

Department Web Address:
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

Department Information:
Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
eschwein@temple.edu
215-204-5527

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Music Performance/Trombone, M.M.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program
The master's degree in Trombone Performance develops expertise beyond baccalaureate-level achievement. Students specialize in the study of the major instrument and take courses outside the major area that support advanced musical and academic development. The Department of Instrumental Studies provides the potential professional performer and/or teacher with the finest instrumental training within the context of a comprehensive university. Students study privately with professional artist-teachers and enjoy opportunities for performance in numerous large and chamber music ensembles.

Time Limit for Degree Completion: 6 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: With approval of the major advisor, students may elect to take up to 6 graduate credits outside the field of music.

Accreditation: The degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Study focuses on performance of the major instrument, the solo and ensemble literature of the instrument, and academic support areas in music.

Job Prospects: The program prepares musicians for either professional activity or doctoral study.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:
Fall: March 1
Spring: November 1

Applications are processed as they arrive. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

Bachelor's Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:
TOEFL: 75 iBT or 537 PBT minimum

Audition: See www.temple.edu/boyer for audition repertoire requirements.

Resume: Current resume required.

Transfer Credit: A student who wishes to transfer credit should speak with her/his academic advisor and obtain a "Request for Transfer of Graduate Credit" form, found in TPortal under the Tools tab within "University Forms." Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.
Program Requirements

General Program Requirements:
Number of Didactic Credits Required Beyond the Baccalaureate: 30

Required Courses:

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 8500</td>
<td>Instrumental Ensemble (2 terms) ¹</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 8504</td>
<td>Instrumental Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 8510</td>
<td>Instrumental Ensemble (2 terms) ¹</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 8514</td>
<td>Instrumental Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 8524</td>
<td>Instrumental Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 8584</td>
<td>Instrumental Major (Recital)</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8701</td>
<td>Research in Music</td>
<td>3</td>
</tr>
</tbody>
</table>

Select one of the following: 3

- MUST 8742 Seminar in Theoretical Analysis
- MUST 8743 Seminar in Stylistic Analysis
- MUST 8744 Seminar in Stylistic Analysis
- MUST 8745 Seminar in Stylistic Analysis
- MUST 8746 Seminar in Stylistic Analysis
- MUST 8747 Aesthetics of Music
- MUST 8748 Seminar in Post-Tonal Theory
- MUST 8749 Current Topics in Musicology and Theory

Electives ² 8

Total Credit Hours 30

¹ M.M. candidates must be available for ensemble assignments, which are determined by the department chair and may exceed curricular requirements.
² Select from Music, Music Education, Music Studies, or other graduate departments. At least 3 credits must be in academic, non-performance coursework. Advisor approval required.

Additional Requirements:

All degree credits are to be earned at Temple University.

Diagnostic Examinations:

All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a "Credit / No Credit" basis, and the official university transcript will indicate "CR" (for "Credit," meaning that the deficiency has been satisfied) or "NC" (for "No Credit," meaning that the deficiency has not been satisfied). Students must have a "B-" or better average in any remedial course or section to earn the grade of "Credit" and to satisfy the requirement. Students who earn a grade of "NC" (that is, having a class average below "B-") must retake that course or section until an average of "B-" or higher is achieved and a grade of "CR" is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remediation coursework during their first academic year of study. An exception may be granted for part-time students. Master of Music students may neither schedule graduation recitals nor take final comprehensive master's examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

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<tr>
<td>MUST 5004</td>
<td>Grad Aural Theory Review</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
- received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

Professional Development Policy:

In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and
open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:

1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.
2. Participation: Master's degree candidates in wind, brass, and percussion instruments must be available for ensemble assignments at the discretion of the department chair, including participation beyond curricular requirements.
3. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

Independent Study Courses:
Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:
All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

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Weekly one-hour private lessons are provided for all matriculated master's and doctoral performance majors in good standing, provided at least three additional credits of programmatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

Private applied lessons beyond the four-term requirement currently in effect for graduate performance students may be extended with the permission of the jury, department chair, and the Associate Dean or Dean of the Boyer College of Music and Dance.

Recital Extension:
Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a "Credit/No Credit" basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of "CR." Credit derived from Recital Extension will not be counted toward degree requirements.

1. Recital Extension Fees: Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.
2. Exceptions to Recital Extension:
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.
3. Failure to Present Recital: The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

Incompletes:
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:
Comprehensive Final Project:
Students must maintain a list of all literature, including solos, etudes, and excerpts, performed each term in lessons, using a printed form provided by the department. During the final term of study, students are required to submit a three-part written project. Part 1 includes lists of music studied/performed in all four terms of lessons; the lists must be signed by the studio teacher. Part 2 includes program notes or background information for any two of the pieces listed in Part 1. The notes should be approximately 500 words each and must contain at least three recognized references, such as Baker's and New Grove. Any online resource must be documented and recognized as appropriate and authoritative. Part 3 is to consist of one of the following:

1. A discussion of a third piece from the submitted lists or one movement of a multi-movement piece from the lists: The length of the piece or movement being discussed should be no less than 8-10 minutes. This discussion must form a paper of no less than 2,000 words. Topics may include (but are not limited to) historical perspectives, performance and performance practice issues, instrumental technical issues, the importance or role of the piece in the literature for the student's instrument, etc. This discussion must be presented as a formal paper with supporting information, including resources, charts, and the like.
   OR
2. A theoretical analysis of one of the listed pieces or one movement of a multi-movement piece from the lists: The length of the piece or movement being analyzed should be no less than 8-10 minutes. This analysis should address form, basic harmonic events, large-scale
Performance majors present a public recital as the culminating event for the master's degree (MUSC 8984). Graduation recitals are typically one hour in length; presented on-campus in either Rock Hall or Klein Recital Hall; and adjudicated by two full-time music faculty members. The student must show evidence through Temple University transcript records of having taken private lessons up to the time of the graduation recital. Students who wish to play a recital in the early Fall should plan to register for and complete the final term of lessons during the preceding Summer months.

A Recital Permission Form indicating the private teacher’s approval for performance of the graduation recital must be signed by the private teacher and submitted six weeks prior to the recital. (If the recital is in the first five weeks of the Spring term, the form must be submitted two weeks before the end of the Fall term.) If required by the private teacher, a Recital Permission Jury must be scheduled at least four weeks prior to the recital. If the form is not submitted or a required jury is not scheduled, the recital will be canceled.

The written project must be submitted to the Department of Instrumental Studies no later than November 1 for an anticipated December graduation or April 1 for an anticipated May graduation. Documents are distributed among the departmental faculty for review and a grade of either “pass” or “fail.” A passing grade from a majority (and no fewer than two) of the department’s graduate faculty members is required. Students who do not pass are told what needs to be fixed (content, grammar, etc.) and, using whatever resources they have (e.g., the University's Writing Center), prepare and submit a revision that receives a passing grade. In order for a student to graduate on schedule, any revision that is required must receive a passing grade before the deadline by which names must be submitted for graduation.

**Contacts**

**Department Web Address:**
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

**Department Information:**
Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
eschwein@temple.edu
215-204-5527

**Submission Address for Application Materials:**
https://apply.temple.edu/Boyer/

**Department Contacts:**

- **Admissions:**
  James Short
  jshort@temple.edu
  215-204-8598

**Program Coordinator:**

Eric Schweingruber
eschwein@temple.edu
215-204-9792

**Chairperson:**
Professor Terell Stafford
terell.stafford@temple.edu
215-204-8036

**Music Performance/Trumpet, M.M.**

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

**About the Program**

The master's degree in Trumpet Performance develops expertise beyond baccalaureate-level achievement. Students specialize in the study of the major instrument and take courses outside the major area that support advanced musical and academic development. The Department of Instrumental Studies provides the potential professional performer and/or teacher with the finest instrumental training within the context of a comprehensive university. Students study privately with professional artist-teachers and enjoy opportunities for performance in numerous large and chamber music ensembles.

**Time Limit for Degree Completion:** 6 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The degree program can be completed on a full- or part-time basis.

**Interdisciplinary Study:** With approval of the major advisor, students may elect to take up to 6 graduate credits outside the field of music.

**Accreditation:** This degree program is accredited by the National Association of Schools of Music (NASM).

**Areas of Specialization:** Study focuses on performance of the major instrument, the solo and ensemble literature of the instrument, and academic support areas in music.

**Job Prospects:** The program prepares musicians for either professional activity or doctoral study.

**Non-Matriculated Student Policy:** Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

**Financing Opportunities:** Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral
students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

Applications are processed as they arrive. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2
From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

Bachelor's Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:
TOEFL: 75 iBT or 537 PBT minimum

Audition: See www.temple.edu/boyer for audition repertoire requirements.

Resume: Current resume required.

Transfer Credit: A student who wishes to transfer credit should speak with her/his academic advisor and obtain a "Request for Transfer of Graduate Credit" form, found in TUportal under the Tools tab within "University Forms." Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:
Number of Didactic Credits Required Beyond the Baccalaureate: 30

Required Courses:

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 8500</td>
<td>Instrumental Ensemble (2 terms) ¹</td>
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<tr>
<td>MUSC 8504</td>
<td>Instrumental Major</td>
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</tr>
<tr>
<td>MUSC 8510</td>
<td>Instrumental Ensemble (2 terms) ¹</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 8514</td>
<td>Instrumental Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 8524</td>
<td>Instrumental Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 8584</td>
<td>Instrumental Major (Recital)</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8701</td>
<td>Research in Music</td>
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Select one of the following:

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
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<td>Seminar in Theoretical Analysis</td>
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</tr>
<tr>
<td>MUST 8743</td>
<td>Seminar in Stylistic Analysis</td>
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</tr>
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<td>MUST 8744</td>
<td>Seminar in Stylistic Analysis</td>
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</tr>
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<td>MUST 8745</td>
<td>Seminar in Stylistic Analysis</td>
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</tr>
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<td>MUST 8746</td>
<td>Seminar in Stylistic Analysis</td>
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</tr>
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<td>MUST 8747</td>
<td>Aesthetics of Music</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8748</td>
<td>Seminar in Post-Tonal Theory</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8749</td>
<td>Current Topics in Musicology and Theory</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives ² 8

Total Credit Hours 30

¹ M.M. candidates must be available for ensemble assignments, which are determined by the department chair and may exceed curricular requirements.

² Select from Music, Music Education, Music Studies, or other graduate departments. At least 3 credits must be in academic, non-performance coursework. Advisor approval required.

Additional Requirements:

All degree credits are to be earned at Temple University.

Diagnostic Examinations:
All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a "Credit / No Credit" basis, and the official university transcript will indicate "CR" (for "Credit," meaning that the deficiency has been satisfied) or
"NC" (for "No Credit," meaning that the deficiency has not been satisfied). Students must have a "B-" or better average in any remedial course or section to earn the grade of "Credit" and to satisfy the requirement. Students who earn a grade of "NC" (that is, having a class average below "B-") must retake that course or section until an average of "B-" or higher is achieved and a grade of "CR" is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remediation coursework during their first academic year of study. An exception may be granted for part-time students. Master of Music students may neither schedule graduation recitals nor take final comprehensive master's examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>MUST 5001</td>
<td>Diatonic Harm. Review</td>
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<tr>
<td>MUST 5002</td>
<td>Chromatic Harm. Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5003</td>
<td>Counterpoint Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5004</td>
<td>Grad Aural Theory Review</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required. The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
- received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

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OR

2. A theoretical analysis of one of the listed pieces or one movement of a multi-movement piece from the lists: The length of the piece or movement being analyzed should be no less than 8-10 minutes. This analysis should address form, basic harmonic events, large-scale phrasing, performance practice issues, etc., as outlined in a rubric provided by the department.

The written project must be submitted to the Department of Instrumental Studies no later than November 1 for an anticipated December graduation or April 1 for an anticipated May graduation. Documents are distributed among the departmental faculty for review and a grade of either "pass" or "fail." A passing grade from a majority (and no fewer than two) of the department's graduate faculty members is required. Students who do not pass are told what needs to be fixed (content, grammar, etc.) and, using whatever resources they have (e.g., the University's Writing Center), prepare and submit a revision that receives a passing grade. In order for a student to graduate on schedule, any revision that is required must receive a passing grade before the deadline by which names must be submitted for graduation.

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Contacts

Department Web Address:
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

Department Information:
Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
eschwein@temple.edu
215-204-5527

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598
Music Performance/Tuba, M.M.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program

The master's degree in Tuba Performance develops expertise beyond baccalaureate-level achievement. Students specialize in the study of the major instrument and take courses outside the major area that support advanced musical and academic development. The Department of Instrumental Studies provides the potential professional performer and/or teacher with the finest instrumental training within the context of a comprehensive university. Students study privately with professional artist-teachers and enjoy opportunities for performance in numerous large and chamber music ensembles.

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Campus Location: Main

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Applications are processed as they arrive. Late applications may be considered for admission.

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Resume: Current resume required.

Transfer Credit: A student who wishes to transfer credit should speak with her/his academic advisor and obtain a "Request for Transfer of Graduate Credit" form, found in TPortal under the Tools tab within "University Forms." Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.
Program Requirements

General Program Requirements:
Number of Didactic Credits Required Beyond the Baccalaureate: 30

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 8500</td>
<td>Instrumental Ensemble (2 terms) ¹</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 8504</td>
<td>Instrumental Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 8510</td>
<td>Instrumental Ensemble (2 terms) ¹</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 8514</td>
<td>Instrumental Major</td>
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</tr>
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<td>MUSC 8524</td>
<td>Instrumental Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 8584</td>
<td>Instrumental Major (Recital)</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8701</td>
<td>Research in Music</td>
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Select one of the following: 3

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</thead>
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<tr>
<td>MUST 8742</td>
<td>Seminar in Theoretical Analysis</td>
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</tr>
<tr>
<td>MUST 8743</td>
<td>Seminar in Stylistic Analysis</td>
<td></td>
</tr>
<tr>
<td>MUST 8744</td>
<td>Seminar in Stylistic Analysis</td>
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<tr>
<td>MUST 8745</td>
<td>Seminar in Stylistic Analysis</td>
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<tr>
<td>MUST 8746</td>
<td>Seminar in Stylistic Analysis</td>
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</tr>
<tr>
<td>MUST 8747</td>
<td>Aesthetics of Music</td>
<td></td>
</tr>
<tr>
<td>MUST 8748</td>
<td>Seminar in Post-Tonal Theory</td>
<td></td>
</tr>
<tr>
<td>MUST 8749</td>
<td>Current Topics in Musicology and Theory</td>
<td>2</td>
</tr>
</tbody>
</table>

Electives ² 8

Total Credit Hours 30

¹ M.M. candidates must be available for ensemble assignments, which are determined by the department chair and may exceed curricular requirements.
² Select from Music, Music Education, Music Studies, or other graduate departments. At least 3 credits must be in academic, non-performance coursework. Advisor approval required.

Additional Requirements:

All degree credits are to be earned at Temple University.

Diagnostic Examinations:

All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a "Credit / No Credit" basis, and the official university transcript will indicate "CR" (for "Credit," meaning that the deficiency has been satisfied) or "NC" (for "No Credit," meaning that the deficiency has not been satisfied). Students must have a "B-" or better average in any remedial course or section to earn the grade of "Credit" and to satisfy the requirement. Students who earn a grade of "NC" (that is, having a class average below "B-") must retake that course or section until an average of "B-" or higher is achieved and a grade of "CR" is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remediation coursework during their first academic year of study. An exception may be granted for part-time students. Master of Music students may neither schedule graduation recitals nor take final comprehensive master's examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

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<thead>
<tr>
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<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUST 5001</td>
<td>Diatonic Harm. Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5002</td>
<td>Chromatic Harm. Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5003</td>
<td>Counterpoint Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5004</td>
<td>Grad Aural Theory Review</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
- received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

Professional Development Policy:

In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and
open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:

1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.

2. Participation: Master's degree candidates in wind, brass, and percussion instruments must be available for ensemble assignments at the discretion of the department chair, including participation beyond curricular requirements.

3. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

Independent Study Courses:
Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:
All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:
Weekly one-hour private lessons are provided for all matriculated master's and doctoral performance majors in good standing, provided at least three additional credits of programatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

Private applied lessons beyond the four-term requirement currently in effect for graduate performance students may be extended with the permission of the jury, department chair, and the Associate Dean or Dean of the Boyer College of Music and Dance.

Recital Extension:
Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a "Credit/No Credit" basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of "CR." Credit derived from Recital Extension will not be counted toward degree requirements.

1. Recital Extension Fees: Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.

2. Exceptions to Recital Extension:
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.

3. Failure to Present Recital: The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

Incompletes:
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:
Comprehensive Final Project:
Students must maintain a list of all literature, including solos, etudes, and excerpts, performed each term in lessons, using a printed form provided by the department. During the final term of study, students are required to submit a three-part written project. Part 1 includes lists of music studied/ performed in all four terms of lessons; the lists must be signed by the studio teacher. Part 2 includes program notes or background information for any two of the pieces listed in Part 1. The notes should be approximately 500 words each and must contain at least three recognized references, such as Baker's and New Grove. Any online resource must be documented and recognized as appropriate and authoritative. Part 3 is to consist of one of the following:

1. A discussion of a third piece from the submitted lists or one movement of a multi-movement piece from the lists: The length of the piece or movement being discussed should be no less than 8-10 minutes. This discussion must form a paper of no less than 2,000 words. Topics may include (but are not limited to) historical perspectives, performance and performance practice issues, instrumental technical issues, the importance or role of the piece in the literature for the student's instrument, etc. This discussion must be presented as a formal paper with supporting information, including resources, charts, and the like.

OR

2. A theoretical analysis of one of the listed pieces or one movement of a multi-movement piece from the lists: The length of the piece or movement being analyzed should be no less than 8-10 minutes. This analysis should address form, basic harmonic events, large-scale
phrasing, performance practice issues, etc., as outlined in a rubric provided by the department.

The written project must be submitted to the Department of Instrumental Studies no later than November 1 for an anticipated December graduation or April 1 for an anticipated May graduation. Documents are distributed among the departmental faculty for review and a grade of either “pass” or “fail.” A passing grade from a majority (and no fewer than two) of the department’s graduate faculty members is required. Students who do not pass are told what needs to be fixed (content, grammar, etc.) and, using whatever resources they have (e.g., the University’s Writing Center), prepare and submit a revision that receives a passing grade. In order for a student to graduate on schedule, any revision that is required must receive a passing grade before the deadline by which names must be submitted for graduation.

Public Recital:
Performance majors present a public recital as the culminating event for the master’s degree (MUSC 8984). Graduation recitals are typically one hour in length; presented on-campus in either Rock Hall or Klein Recital Hall; and adjudicated by three full-time music faculty members. The student must show evidence through Temple University transcript records of having taken private lessons up to the time of the graduation recital. Students who wish to play a recital in the early Fall should plan to register for and complete the final term of lessons during the preceding Summer months.

A Recital Permission Form indicating the private teacher’s approval for performance of the graduation recital must be signed by the private teacher and submitted six weeks prior to the recital. (If the recital is in the first five weeks of the Spring term, the form must be submitted two weeks before the end of the Fall term.) If required by the private teacher, a Recital Permission Jury must be scheduled at least four weeks prior to the recital. If the form is not submitted or a required jury is not scheduled, the department reserves the right to cancel or postpone the recital.

Contacts
Department Web Address:
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

Department Information:
Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
eschwein@temple.edu
215-204-5527

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Eric Schweingruber
eschwein@temple.edu
215-204-9792

Chairperson:
Professor Terell Stafford
terell.stafford@temple.edu
215-204-8036

Music Performance/Viola, M.M.
Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program
The master's degree in Viola Performance develops expertise beyond baccalaureate-level achievement. Students specialize in the study of the major instrument and take courses outside the major area that support advanced musical and academic development. The Department of Instrumental Studies provides the potential professional performer and/or teacher with the finest instrumental training within the context of a comprehensive university. Students study privately with professional artist-teachers and enjoy opportunities for performance in numerous large and chamber music ensembles.

Time Limit for Degree Completion: 6 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: With approval of the major advisor, students may elect to take up to 6 graduate credits outside the field of music.

Accreditation: This degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Study focuses on performance of the major instrument, the solo and ensemble literature of the instrument, and academic support areas in music.

Job Prospects: The program prepares musicians for either professional activity or doctoral study.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral
students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

**Admission Requirements and Deadlines**

**Application Deadline:**

*Fall:* March 1  
*Spring:* November 1

Applications are processed as they arrive. Late applications may be considered for admission.  
**APPLY ONLINE to this graduate program.**

**Letters of Reference:**

*Number Required: 2*

*From Whom:* Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

**Coursework Required for Admission Consideration:** All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

**Bachelor's Degree in Discipline/Related Discipline:** A degree in Music is expected.

**Statement of Goals:** Include your special interests within the discipline and expectations for the program.

**Standardized Test Scores:**

TOEFL: 75 iBT or 537 PBT minimum

**Audition:** See [www.temple.edu/boyer](http://www.temple.edu/boyer) for audition repertoire requirements.

**Resume:** Current resume required.

**Transfer Credit:** A student who wishes to transfer credit should speak with her/his academic advisor and obtain a “Request for Transfer of Graduate Credit” form, found in TUPortal under the Tools tab within “University Forms.” Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

**Other:** Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College’s Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

**Program Requirements**

**General Program Requirements:**

*Number of Didactic Credits Required Beyond the Baccalaureate: 32*

**Required Courses:**

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<tr>
<th>Code</th>
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<tr>
<td>MUSC 8500</td>
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<td>4</td>
</tr>
<tr>
<td>MUSC 8504</td>
<td>Instrumental Major</td>
<td>3</td>
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<tr>
<td>MUSC 8510</td>
<td>Instrumental Ensemble (4 terms) 1</td>
<td>4</td>
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<td>MUSC 8514</td>
<td>Instrumental Major</td>
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<td>MUSC 8524</td>
<td>Instrumental Major</td>
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<tr>
<td>MUSC 8561</td>
<td>Lower String Pedagogy</td>
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<tr>
<td>or MUSC 8562 Upper String Pedagogy</td>
<td></td>
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<tr>
<td>MUSC 8584</td>
<td>Instrumental Major (Recital)</td>
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</tr>
<tr>
<td>MUST 8701</td>
<td>Research in Music</td>
<td>3</td>
</tr>
<tr>
<td>Electives 2</td>
<td></td>
<td>7</td>
</tr>
</tbody>
</table>

**Total Credit Hours: 32**

1. M.M. candidates must be available for ensemble assignments, which are determined by the department chair and may exceed curricular requirements.

2. Select from Music, Music Education, Music Studies, or other graduate departments. At least 3 credits must be in academic, non-performance coursework. No more than 2 credits of MUSC 8555 Orchestral Repertoire can be taken as an elective. Advisor approval required.

**Additional Requirements:**

All degree credits are to be earned at Temple University.

**Diagnostic Examinations:**

All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® ([https://examity.com](https://examity.com)). Students are responsible for all fees.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a "Credit / No Credit" basis, and the official university transcript will indicate "CR" (for "Credit," meaning that the deficiency has been satisfied) or "NC" (for "No Credit," meaning that the deficiency has not been satisfied). Students must have a "B-" or better average in any remedial course or section to earn the grade of "Credit" and to satisfy the requirement. Students who earn a grade of "NC" (that is, having a class average below "B-") must retake that course or section until an average of "B-" or higher is achieved and a grade of "CR" is recorded on the official
university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remediation coursework during their first academic year of study. An exception may be granted for part-time students. Master of Music students may neither schedule graduation recitals nor take final comprehensive master's examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

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<tbody>
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<td>MUST 5001</td>
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</tr>
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<td>1</td>
</tr>
<tr>
<td>MUST 5003</td>
<td>Counterpoint Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5004</td>
<td>Grad Aural Theory Review</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections is enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
- received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

Professional Development Policy:

In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:

1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.

2. Participation: Master's degree candidates in wind, brass, and percussion instruments must be available for ensemble assignments at the discretion of the department chair, including participation beyond curricular requirements.

3. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

University Orchestra:

At the master's degree level, all bowed string majors must perform in the University Orchestra each term they receive lessons.

Independent Study Courses:

Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:

All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

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Weekly one-hour private lessons are provided for all matriculated master's and doctoral performance majors in good standing, provided at least three additional credits of programatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

Private applied lessons beyond the four-term requirement currently in effect for graduate performance students may be extended with the permission of the jury, department chair, and the Associate Dean or Dean of the Boyer College of Music and Dance.

Recital Extension:

Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a "Credit/No Credit" basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will
be issued a grade of "CR." Credit derived from Recital Extension will not be counted toward degree requirements.

1. Recital Extension Fees: Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.

2. Exceptions to Recital Extension:
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.

3. Failure to Present Recital: The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

Incompletes:
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:
Comprehensive Final Project:
Students must maintain a list of all literature, including solos, etudes, and excerpts, performed each term in lessons, using a printed form provided by the department. During the final term of study, students are required to submit a three-part written project. Part 1 includes lists of music studied/performed in all four terms of lessons; the lists must be signed by the studio teacher. Part 2 includes program notes or background information for any two of the pieces listed in Part 1. The notes should be approximately 500 words each and must contain at least three recognized references, such as Baker’s and New Grove. Any online resource must be documented and recognized as appropriate and authoritative. Part 3 is to consist of one of the following:

1. A discussion of a third piece from the submitted lists or one movement of a multi-movement piece from the lists: The length of the piece or movement being discussed should be no less than 8-10 minutes. This discussion must form a paper of no less than 2,000 words. Topics may include (but are not limited to) historical perspectives, performance and performance practice issues, instrumental technical issues, the importance or role of the piece in the literature for the student’s instrument, etc. This discussion must be presented as a formal paper with supporting information, including resources, charts, and the like. OR

2. A theoretical analysis of one of the listed pieces or one movement of a multi-movement piece from the lists: The length of the piece or movement being analyzed should be no less than 8-10 minutes. This analysis should address form, basic harmonic events, large-scale phrasing, performance practice issues, etc., as outlined in a rubric provided by the department.

The written project must be submitted to the Department of Instrumental Studies no later than November 1 for an anticipated December graduation or April 1 for an anticipated May graduation. Documents are distributed among the departmental faculty for review and a grade of either “pass” or “fail.” A passing grade from a majority (and no fewer than two) of the department’s graduate faculty members is required. Students who do not pass are told what needs to be fixed (content, grammar, etc.) and, using whatever resources they have (e.g., the University’s Writing Center), prepare and submit a revision that receives a passing grade. In order for a student to graduate on schedule, any revision that is required must receive a passing grade before the deadline by which names must be submitted for graduation.

Public Recital:
Performance majors present a public recital as the culminating event for the master’s degree (MUSC 8984). Graduation recitals are typically one hour in length; presented on-campus in either Rock Hall or Klein Recital Hall; and adjudicated by three full-time music faculty members. The student must show evidence through Temple University transcript records of having taken private lessons up to the time of the graduation recital. Students who wish to play a recital in the early Fall should plan to register for and complete the final term of lessons during the preceding Summer months.

A Recital Permission Form indicating the private teacher’s approval for performance of the graduation recital must be signed by the private teacher and submitted six weeks prior to the recital. (If the recital is in the first five weeks of the Spring term, the form must be submitted two weeks before the end of the Fall term.) If required by the private teacher, a Recital Permission Jury must be scheduled at least four weeks prior to the recital. If the form is not submitted or a required jury is not scheduled, the department reserves the right to cancel or postpone the recital.

Contacts
Department Web Address:
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

Department Information:
Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
terell.stafford@temple.edu
215-204-5527

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Professor Jeffrey Solow
jeffrey.solow@temple.edu
Music Performance/Violin, M.M.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

**About the Program**

The master's degree in Violin Performance develops expertise beyond baccalaureate-level achievement. Students specialize in the study of the major instrument and take courses outside the major area that support advanced musical and academic development. The Department of Instrumental Studies provides the potential professional performer and/or teacher with the finest instrumental training within the context of a comprehensive university. Students study privately with professional artist-teachers and enjoy opportunities for performance in numerous large and chamber music ensembles.

**Time Limit for Degree Completion:** 6 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The degree program can be completed on a full- or part-time basis.

**Interdisciplinary Study:** With approval of the major advisor, students may elect to take up to 6 graduate credits outside the field of music.

**Accreditation:** This degree program is accredited by the National Association of Schools of Music (NASM).

**Areas of Specialization:** Study focuses on performance of the major instrument, the solo and ensemble literature of the instrument, and academic support areas in music.

**Job Prospects:** The program prepares musicians for either professional activity or doctoral study.

**Non-Matriculated Student Policy:** Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

**Financing Opportunities:** Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

**Admission Requirements and Deadlines**

**Application Deadline:**

- **Fall:** March 1
- **Spring:** November 1

Applications are processed as they arrive. Late applications may be considered for admission.

**APPLY ONLINE to this graduate program.**

**Letters of Reference:**

**Number Required:** 2

**From Whom:** Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

**Coursework Required for Admission Consideration:** All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

**Bachelor's Degree in Discipline/Related Discipline:** A degree in Music is expected.

**Statement of Goals:** Include your special interests within the discipline and expectations for the program.

**Standardized Test Scores:**

TOEFL: 75 iBT or 537 PBT minimum

**Audition:** See www.temple.edu/boyer for audition repertoire requirements.

**Resume:** Current resume required.

**Transfer Credit:** A student who wishes to transfer credit should speak with her/his academic advisor and obtain a "Request for Transfer of Graduate Credit" form, found in TUPortal under the Tools tab within "University Forms." Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

**Other:** Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.
Program Requirements

General Program Requirements:
Number of Didactic Credits Required Beyond the Baccalaureate: 32

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 8500</td>
<td>Instrumental Ensemble (4 terms) 1</td>
<td>4</td>
</tr>
<tr>
<td>MUSC 8504</td>
<td>Instrumental Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 8510</td>
<td>Instrumental Ensemble (4 terms) 1</td>
<td>4</td>
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<td>MUSC 8514</td>
<td>Instrumental Major</td>
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</tr>
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<td>MUSC 8524</td>
<td>Instrumental Major</td>
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</tr>
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<td>MUSC 8561</td>
<td>Lower String Pedagogy</td>
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<tr>
<td>or MUSC 8562 Upper String Pedagogy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUSC 8584</td>
<td>Instrumental Major (Recital)</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8701</td>
<td>Research in Music</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
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</tbody>
</table>

Total Credit Hours 32

1 M.M. candidates must be available for ensemble assignments, which are determined by the department chair and may exceed curricular requirements.

2 Select from Music, Music Education, Music Studies, or other graduate departments. At least 3 credits must be in academic, non-performance coursework. No more than 2 credits of MUSC 8555 Orchestral Repertoire can be taken as an elective. Advisor approval required.

Additional Requirements:

All degree credits are to be earned at Temple University.

Diagnostic Examinations:

All entering Master of Music students are required to take Diagnostic Examinations in Music Theory, Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a "Credit / No Credit" basis, and the official university transcript will indicate "CR" (for "Credit," meaning that the deficiency has been satisfied) or "NC" (for "No Credit," meaning that the deficiency has not been satisfied). Students must have a "B-" or better average in any remedial course or section to earn the grade of "Credit" and to satisfy the requirement. Students who earn a grade of "NC" (that is, having a class average below "B") must retake that course or section until an average of "B-" or higher is achieved and a grade of "CR" is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remedial coursework during their first academic year of study. An exception may be granted for part-time students. Master of Music students may neither schedule graduation recitals nor take final comprehensive master’s examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUST 5001</td>
<td>Diatonic Harm. Review</td>
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</tr>
<tr>
<td>MUST 5002</td>
<td>Chromatic Harm. Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5003</td>
<td>Counterpoint Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5004</td>
<td>Grad Aural Theory Review</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

• matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
• received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

Professional Development Policy:

In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:
1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.

2. Participation: Master’s degree candidates in wind, brass, and percussion must be available for ensemble assignments at the discretion of the department chair, including participation beyond curricular requirements.

3. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

University Orchestra:
At the master's degree level, all bowed string majors must perform in the University Orchestra each term they receive lessons.

Independent Study Courses:
Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students’ major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:
All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College’s statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:
Weekly one-hour private lessons are provided for all matriculated master's and doctoral performance majors in good standing, provided at least three additional credits of programmatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

Private applied lessons beyond the four-term requirement currently in effect for graduate performance students may be extended with the permission of the jury, department chair, and the Associate Dean or Dean of the Boyer College of Music and Dance.

Recital Extension:
Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a "Credit/No Credit" basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of "CR." Credit derived from Recital Extension will not be counted toward degree requirements.

1. Recital Extension Fees: Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.

2. Exceptions to Recital Extension:
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.

3. Failure to Present Recital: The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

Incompletes:
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:
Comprehensive Final Project:
Students must maintain a list of all literature, including solos, etudes, and excerpts, performed each term in lessons, using a printed form provided by the department. During the final term of study, students are required to submit a three-part written project. Part 1 includes lists of music studied/Performed in all four terms of lessons; the lists must be signed by the studio teacher. Part 2 includes program notes or background information for any two of the pieces listed in Part 1. The notes should be approximately 500 words each and must contain at least three recognized references, such as Baker’s and New Grove. Any online resource must be documented and recognized as appropriate and authoritative. Part 3 is to consist of one of the following:

1. A discussion of a third piece from the submitted lists or one movement of a multi-movement piece from the lists: The length of the piece or movement being discussed should be no less than 8-10 minutes. This discussion must form a paper of no less than 2,000 words. Topics may include (but are not limited to) historical perspectives, performance and performance practice issues, instrumental technical issues, the importance or role of the piece in the literature for the student’s instrument, etc. This discussion must be presented as a formal paper with supporting information, including resources, charts, and the like.

OR

2. A theoretical analysis of one of the listed pieces or one movement of a multi-movement piece from the lists: The length of the piece or movement being analyzed should be no less than 8-10 minutes. This analysis should address form, basic harmonic events, large-scale phrasing, performance practice issues, etc., as outlined in a rubric provided by the department.
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A Recital Permission Form indicating the private teacher’s approval for performance of the graduation recital must be signed by the private teacher and submitted six weeks prior to the recital. (If the recital is in the first five weeks of the Spring term, the form must be submitted two weeks before the end of the Fall term.) If required by the private teacher, a Recital Permission Jury must be scheduled at least four weeks prior to the recital. If the form is not submitted or a required jury is not scheduled, the department reserves the right to cancel or postpone the recital.

Contacts

Department Web Address:
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

Department Information:
Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
terrell.stafford@temple.edu
215-204-5527

Submission Address for Application Materials:
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Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Professor Jeffrey Solow
jeffrey.solow@temple.edu

215-204-5527

Chairperson:
Professor Terell Stafford
terell.stafford@temple.edu
215-204-8036

Music Performance/Voice, M.M.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program

The master's degree in Voice Performance prepares singers for multifaceted careers as well-rounded performers on concert and operatic stages and/or as teachers of voice. The ultimate goal of the program is to produce singing artists capable of competing successfully in the professional world of music.

Time Limit for Degree Completion: 6 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Accreditation: This degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: The program offers a systematic approach to vocal technique; specialized studies in vocal literature; the refinement of language and diction skills; the development of acting techniques; the continued refinement of musical and theoretical skills; advanced study in musical style and performance practice; and the provision of recital, operatic, and concert performance opportunities designed to emulate a professional environment.

Job Prospects: The program prepares musicians for either professional activity or doctoral study.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistentshipform.pdf) page of Boyer’s website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.
Admission Requirements and Deadlines

Application Deadline:

**Fall:** March 1
**Spring:** November 1

Applications are processed as they arrive. Late applications may be considered for admission.

**APPLY ONLINE to this graduate program.**

Letters of Reference:

**Number Required:** 2

**From Whom:** Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

**Bachelor's Degree in Discipline/Related Discipline:** A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:

TOEFL: 75 iBT or 537 PBT minimum

Audition: See www.temple.edu/boyer for audition repertoire requirements.

Resume: Current resume required.

Transfer Credit: A student who wishes to transfer credit should speak with her/his academic advisor and obtain a "Request for Transfer of Graduate Credit" form, found in TPortal under the Tools tab within "University Forms." Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:

**Number of Didactic Credits Required Beyond the Baccalaureate:** 30

Required Courses:

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tr>
<td>MUSC 8204</td>
<td>Voice Major</td>
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<tr>
<td>MUSC 8214</td>
<td>Voice Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 8220</td>
<td>Opera Workshop (2 terms)</td>
<td>4</td>
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<td>MUSC 8224</td>
<td>Voice Major</td>
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<td>MUSC 8225</td>
<td>Vocal Literature: Renaissance and Baroque</td>
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<td>MUSC 8226</td>
<td>Vocal Literature: Classical/Bel Canto</td>
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<td>MUSC 8227</td>
<td>Vocal Literature: German Romantic</td>
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<td>MUSC 8284</td>
<td>Voice Major-Recital</td>
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<td>MUST 8701</td>
<td>Research in Music</td>
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<td>Seminar in Theoretical Analysis</td>
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<td>Electives</td>
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Total Credit Hours: 30

1 Select from Music, Music Education, Music Studies, or other graduate departments. At least 3 credits must be in academic, non-performance coursework. No more than 2 credits of MUSC 8215 Vocal Coaching can be taken as an elective. Advisor approval required.

Language Examination: Candidates in the Voice Performance program must present undergraduate coursework in French, German, and Italian languages (or pass a translating and speaking examination at Temple) at the time of admission. Where the transcript or pass-off examination does not reveal such study, the appropriate deficiency course(s) must be taken prior to completion of the master's degree.

Additional Requirements:

All degree credits are to be earned at Temple University.

Diagnostic Examinations:

All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.
Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a "Credit / No Credit" basis, and the official university transcript will indicate "CR" (for "Credit," meaning that the deficiency has been satisfied) or "NC" (for "No Credit," meaning that the deficiency has not been satisfied). Students must have a "B-" or better average in any remedial course or section to earn the grade of "Credit" and to satisfy the requirement. Students who earn a grade of "NC" (that is, having a class average below "B-") must retake that course or section until an average of "B-" or higher is achieved and a grade of "CR" is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remediation coursework during their first academic year of study. An exception may be granted for part-time students. Master of Music students may neither schedule graduation recitals nor take final comprehensive master's examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>MUST 5001</td>
<td>Diatonic Harm. Review</td>
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</tr>
<tr>
<td>MUST 5002</td>
<td>Chromatic Harm. Review</td>
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</tr>
<tr>
<td>MUST 5003</td>
<td>Counterpoint Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5004</td>
<td>Grad Aural Theory Review</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
- received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

In addition to the written diagnostic examinations required upon entrance to the program, Voice majors take a functional piano examination encompassing the following points:

1. Playing a prepared accompaniment (music can be used).
2. Sight-reading a simple accompaniment.
3. Improvising an accompaniment to a simple melody.

Professional Development Policy:

In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:

1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.
2. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

Independent Study Courses:

Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:

All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:

Weekly one-hour private lessons are provided for all matriculated master's and doctoral performance majors in good standing, provided at least three additional credits of programatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject
Students must pass all three sections. A score of 70% or better must be achieved in the identification section, and a "pass" or "weak pass" must be achieved in the "mystery" selection and the score analysis section.

The examination is administered approximately ten times each year. Students notify the Assistant Dean no later than one week prior to the requested examination administration date. For examination dates, see the Graduate Music Examination Schedule (http://www.temple.edu/boyer/admissions/graduate-admissions/gradmusicexamschedule.asp).

Public Recital:
Performance majors present a public recital as the culminating event for the master's degree (MUSC 8284). Graduation recitals are typically one hour in length; presented on-campus in either Rock Hall or Klein Recital Hall; and adjudicated by three full-time music faculty members. The student must show evidence through Temple University transcript records of having taken private lessons up to the time of the graduation recital. Students who wish to play a recital in the early Fall should plan to register for and complete the final term of lessons during the preceding Summer months.

Contacts

Department Web Address:
http://www.temple.edu/boyer/academicprograms/voice-opera/

Department Information:

Dept. of Vocal Arts
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
christine.anderson@temple.edu
215-204-8375

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:

Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Dr. Christine Anderson
christine.anderson@temple.edu
215-204-8375

Chairperson:
Dr. Paul Rardin
rardin@temple.edu
215-204-4742

Music Performance/Bassoon, D.M.A.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program

The objective of the D.M.A. program in Bassoon Performance is to foster growth and development of the highest and most sophisticated
expression of musical interpretation through performance under the guidance of a very highly specialized faculty.

**Time Limit for Degree Completion:** 7 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The degree program can be completed on a full- or part-time basis.

**Accreditation:** This degree program is accredited by the National Association of Schools of Music (NASM).

**Areas of Specialization:** Diverse areas of study are included to ensure the broadest possible cultivation and expansion of students’ talents.

**Job Prospects:** Graduates of the program typically find employment in professional music ensembles throughout the world, in colleges and universities, and in private teaching studios, among other employment venues.

**Non-Matriculated Student Policy:** Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

**Financing Opportunities:** Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer’s website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master’s students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

## Admission Requirements and Deadlines

**Application Deadline:**

*Fall: November 15*

APPLY ONLINE to this graduate program.

**Letters of Reference:**

*Number Required: 2*

*From Whom:* Letters of recommendation should be obtained from evaluators who can provide insight into the applicant’s abilities, talents, and aptitude for graduate study.

**Coursework Required for Admission Consideration:** All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours. Doctoral candidates must hold the Master of Music degree (or the equivalent) in the field of specialization from an accredited institution. Applicants accepted with deficiencies will find the deficiencies noted in the letter of admission. Deficiencies must be addressed prior to completion of the degree.

**Master’s Degree in Discipline/Related Discipline:** A degree in Music is expected.

**Bachelor’s Degree in Discipline/Related Discipline:** A degree in Music is expected.

**Statement of Goals:** Include your special interests within the discipline and expectations for the program.

**Standardized Test Scores:**

*TOEFL: 100 iBT or 600 PBT minimum*

**Prescreening Video and Audition:** Applicants submit a prescreening video via Acceptd (https://app.getacceptd.com/templeboyer). This recording may contain representative movements of the audition material, with the majority of the material having been recorded within the last 12 months. Video recordings of accompanied works must have piano or orchestral accompaniment.

If preliminary approval is granted, an in-person live audition is arranged. Audition repertoire requirements include:

- A concerto, sonata, or solo piece from the Classical, Romantic, or Impressionistic period.
- A concerto, sonata, or solo piece from the 20th Century.
- Excerpts from the standard orchestral repertoire.

All works, except sonatas, should be memorized. Applicants must arrange for an accompanist for the live audition.

Note that video recordings alone are not acceptable for admission, except in the case of students living outside the United States. In this case, applicants must submit a video recording of complete works.

**Scholarly Paper:** Applicants must upload a scholarly paper to Acceptd (https://app.getacceptd.com/templeboyer).

**Interview:** Applicants are interviewed by the department chair and Associate Dean at the time of the live audition.

**Resume:** Current resume required.

**Writing Examination:** An on-site Writing Examination is required as part of the doctoral admissions process. Remedial coursework may be required.

**Advanced Standing:** The D.M.A. program in Music Performance consists of 55 discrete credits taken beyond the master’s degree. At the time of admission, the entire master’s degree serves as advanced standing credits. These credits are not counted toward the 55 required credits of the doctoral degree. However, students may transfer into the doctoral program up to 12 additional graduate credits in coursework taken beyond the master’s degree. Typically, this coursework is reviewed after admission to the D.M.A. degree and must be approved by the major advisor and the Associate Dean. The maximum number of advanced standing credits awarded is 30.

**Additional Requirements:** Applicants must:

1. Include with the application a repertoire list indicating works previously studied. The list should indicate which of the works were performed publicly and, if possible, where and when they were performed.
2. Show transcript evidence at the master's level in the area of bibliographical resources in music. If no transcript evidence is available, students must take MUST 8701 Research in Music in addition to the 6 required credits within the History/Theory area.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

**Program Requirements**

**General Program Requirements:**

*Number of Didactic Credits Required Beyond the Master's: 54*

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td>MUSC 9011</td>
<td>Doctoral Chamber Music</td>
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</tr>
<tr>
<td>MUSC 9012</td>
<td>Doctoral Chamber Music</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 9184</td>
<td>DMA Solo Public Recital</td>
<td>1</td>
</tr>
<tr>
<td>or MUSC 9884</td>
<td>DMA Major Opera Role</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 9351</td>
<td>Performance Traditions</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 9504</td>
<td>Doctoral Instrumental Major</td>
<td>3</td>
</tr>
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<td>MUSC 9514</td>
<td>Doctoral Instrumental Major</td>
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<tr>
<td>MUSC 9517</td>
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<td>MUSC 9524</td>
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<td>MUSC 9534</td>
<td>Doctoral Instrumental Major</td>
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</tr>
<tr>
<td>MUSC 9561</td>
<td>Single Reed Woodwind Ped</td>
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</tr>
<tr>
<td>MUSC 9684</td>
<td>DMA Lecture-Recital</td>
<td>1</td>
</tr>
<tr>
<td>or MUSC 9784</td>
<td>DMA Performance with Orchestra</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 9701</td>
<td>Doct Perf Practice I</td>
<td>3</td>
</tr>
<tr>
<td>or MUSC 9702</td>
<td>Doct Perf Practice II</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 9984</td>
<td>DMA Final Recital</td>
<td>1</td>
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<tr>
<td>MUSC 9999</td>
<td>Monograph Research</td>
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<tr>
<td>MUST 9701</td>
<td>Doctoral Seminar Analysis, Interpretation, and Performance</td>
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**Electives**

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<tbody>
<tr>
<td>Music History</td>
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<tr>
<td>Advanced Music</td>
<td></td>
<td>3</td>
</tr>
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</table>

**Minor Area in Music**

<table>
<thead>
<tr>
<th></th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Credit Hours</strong></td>
<td>54</td>
</tr>
</tbody>
</table>

1. Select from courses at the level of MUSC 8404 or higher.

**Recitals:**

1. Solo public recital by the conclusion of the fourth term of lessons (MUSC 9534)
2. Solo public recital (MUSC 9184) or Chamber Music Recital (MUSC 9884)
3. Lecture Recital (MUSC 9684) or Performance with Orchestra (MUSC 9784)
4. Final Doctoral Recital (MUSC 9984)

**Additional Requirements:**

All degree credits are to be earned at Temple University.

**Written Entrance Examinations:**

All doctoral students must take written entrance exams prior to or during the first term of doctoral study. Candidates who fail the entrance examinations the first time may, upon application to the Associate Dean for Graduate Studies of the Boyer College of Music and Dance, be permitted to take the examinations a second time. A third opportunity is not allowed.

To continue registration in the doctoral program beyond the second term of study, all portions of the examinations must be passed or the appropriate review courses (or the equivalent, as determined by the examining department) must be in progress. Students planning to take the written examinations should request a list of dates from the graduate secretary and submit a written request to the Associate Dean one month prior to the administration date.

1. **Music History Exam:** A general examination covering the history of music is administered. Questions relative to forms, styles, and periods of music are included. It is expected that all examinees are acquainted with the standard literature of music.
2. **Harmony Exam:** This exam involves completion of a harmonic excerpt in advanced chromatic idiom and the creation of a bass line with figuration (figured bass) in Baroque style.
3. **Counterpoint Exam:** From a given motive, approximately 20 measures of imitative counterpoint in three parts are to be completed.
4. **Form and Analysis Exam:** A score is provided at the examination that requires analysis of specified passages.
5. **Literature and Pedagogy Exam:** This examination focuses on the literature and pedagogy of the instrument of specialization.
6. **Writing Sample:** A 90-minute examination of the student's ability to write at the doctoral level is conducted. Examination topics are of a general nature.

**Diagnostic Recital:**

A diagnostic recital is required and must be performed before a faculty jury at the conclusion of the first term of study. The candidate must contact her/his advisor to arrange the jury. The recital consists of a full program, approximately 45 minutes in length, and may include the performance (with music) of a new composition that is presented to the applicant for study 48 hours in advance of the jury. An analysis of repertoire and technical needs results.

**Continuous Registration:**

Continuous registration of at least 3 credits must be maintained each term, with the exception of Summer, from the time of acceptance into the D.M.A. program in Music Performance until the completion of all coursework.

**Continuation in the D.M.A. Program:**
Each course or seminar requires an end-of-term final grade based on papers prepared, recitals presented, discussion, and/or examinations taken during the course of the term. Each term of private study culminates in a performance examination or jury, except during terms in which the student has presented one of the required adjudicated recitals. Screening for continuance in the program after the first term of study is conducted at adjudicated recitals, end-of-term juries, and major examinations. This ensures that only the most qualified students continue beyond the early stages of the program.

For all doctoral programs, only grades from "A" to "B-" can be applied toward degree requirements. Grades of less than "B-" cannot be counted toward the degree. If the student earns a grade of less than "B-" s/he may, with permission of the department chair and the Associate Dean, retake the term of study one additional time. The same applies to recitals.

Professional Development Policy:
In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:
1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.
2. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

Independent Study Courses:
Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:
All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:
Weekly one-hour private lessons are provided for all matriculated master's and doctoral performance majors in good standing, provided at least three additional credits of programmatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

The four terms of private lessons must be taken consecutively, with the exception of summers. Any deviation from this must have the approval of the advisor, department chair, and the Associate Dean of the Boyer College of Music and Dance. Graduate assistantships and other forms of University-sponsored financial aid do not cover private lesson and recital extension fees.

Written Preliminary Examinations:
The written preliminary examinations may be taken during the final term of coursework, but no later than in the term after completion of coursework. They are administered several times each calendar year, and span two consecutive days of six hours of examination each day. Written and performance examinations should be taken no later than the end of the fifth year to allow for the successful completion of the Final Recital and the writing of the monograph. Preliminary examinations must be successfully completed before formal work on the monograph may be undertaken and before the Final Recital may be presented.

Students planning to take the written examinations should request a list of dates from the graduate secretary and submit a written request to the Associate Dean one month prior to the administration date. Students are then notified in writing of the specific dates and administration times of the preliminary examinations for which they have been scheduled.

The examinations consist of questions relating to the major and minor areas and to musical style; require the student to comment articulately on the style and historical significance of musical compositions; and entail the student discussing and defending the principles of performance on the basis of which s/he would undertake to perform any composition in her/his major area. The questions are prepared by faculty members within the student's major and minor subject areas. At least two graduate faculty members read each section of the written preliminary examinations. Students typically are graded "Pass" or "Fail" based on a consensus of the examination readers.

Oral Preliminary Examinations:
For those students who pass the written preliminary examinations, no oral preliminary examination is required. (This refers only to the oral preliminary examination and does not refer in any way to the oral defense of the dissertation/monograph.)

If a student fails one or more portions of the written preliminary examination, an oral examination is administered by the major advisor and a minimum of two additional faculty members. In the case of failure in one subject area, two members of that department are asked by the student's major advisor to participate with the major advisor in the examination. In the case of failure in more than one subject area, at least one faculty member from each of the departments in which the failure occurred is asked by the student's major advisor to participate in the examination.

The examination is to be a formal oral examination rather than an informal meeting with graduate faculty from departments in which the
examination revealed that the student needs further work. This does not preclude such informal meetings, however, in preparation for the oral examination. Upon passing the oral examination, the student, as advised by the examining committee, is permitted to schedule a second and final attempt at the failed portions of the written examination.

Final Recital and Monograph Proposal:
After the successful completion of the written preliminary examinations, MUSC 9984 DMA Final Recital and written monograph are undertaken in consultation with the major advisor, the department chair, and the Doctoral Advisory Committee (DAC). The DAC shall be appointed by the Associate Dean to adjudicate the Final Recital and to guide the student in writing both the monograph proposal and the final document itself. When the student, in consultation with the major advisor and department chair, has identified a tentative advisory committee, the chair gives those names to the Associate Dean for consideration. The Associate Dean appoints the DAC. The DAC consists of no fewer than three persons: two faculty members from within the department, and a third person from outside the department. Members of the DAC serve as the adjudicators of the Final Recital.

After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers within 30 days one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School. Students register for MUSC 9998 during the writing of the monograph proposal and MUSC 9999 after the proposal has been officially approved. Doctoral candidates are required to register for a minimum of 6 credit hours of MUSC 9999 Monograph Research during their program as a whole and must register for a minimum of 1 such credit each term.

Recital Extension:
Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a “Credit/No Credit” basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of “CR.” Credit derived from Recital Extension will not be counted toward degree requirements.

1. Recital Extension Fees: Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.

2. Exceptions to Recital Extension:
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.

3. Failure to Present Recital: The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

Final Oral Examination:
When the monograph is complete, the major advisor of the Doctoral Advisory Committee (DAC) asks the Associate Dean to appoint an outside reader. The DAC plus the outside reader constitute the Dissertation Examining Committee (DEC) for the monograph defense. Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary. Doctoral candidates must submit a defense copy of the monograph to members of the DEC and the Associate Dean at least two weeks prior to the defense. Students should register for MUSC 9999 Monograph Research (1-6 credits) each term, Fall and Spring, until the final project has been successfully defended. Doctoral candidates are required to register for a minimum of 6 credit hours of MUSC 9999 during their program as a whole, but must register for a minimum of one such credit each term.

Incompletes:
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:
Final Recital:
Students may present the DMA Final Recital (MUSC 9984) after the preliminary examination has been completed and the DAC has been appointed.

Proposal:
After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary. Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary.

Monograph:
Early in the term in which a defense of the monograph is anticipated, the major advisor notifies the Associate Dean that it is time to appoint the Dissertation Examining Committee (DEC). The DEC consists of the DAC plus an “outside” reader, who is an additional graduate faculty member from Temple or another university, but not from the faculty of the student’s home department.

Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary. This includes the “Announcement of Oral Defense” form, which must bear all appropriate signatures and be submitted to the Associate Dean.

Two weeks prior to the oral defense, the student submits individual copies of the abstract and the completed dissertation/monograph to the Associate Dean and each member of the DEC. The graduate secretary notifies the Graduate School and posts notices of the impending defense on bulletin boards located within the Boyer College of Music and Dance. All members of the DEC attend the oral defense and then vote to pass
or fail the monograph and its defense after the conclusion of the public presentation.

Changes in membership of a DAC or a DEC must be approved by the Associate Dean. The change also must be communicated to the Graduate School.

Contacts
Department Web Address:
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

Department Information:
Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
terell.stafford@temple.edu
215-204-5527

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Eric Schweingruber
eschwein@temple.edu
215-204-9792

Chairperson:
Professor Terell Stafford
terell.stafford@temple.edu
215-204-8036

Music Performance/Cello, D.M.A.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program
The objective of the D.M.A. program in Cello Performance is to foster growth and development of the highest and most sophisticated expression of musical interpretation through performance under the guidance of a very highly specialized faculty.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Accreditation: The degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Diverse areas of study are included to ensure the broadest possible cultivation and expansion of students’ talents.

Job Prospects: Graduates of the program typically find employment in professional music ensembles throughout the world, in colleges and universities, and in private teaching studios, among other employment venues.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/ internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer’s website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:
Fall: November 15
APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2
From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours. Doctoral candidates must hold the Master of Music degree (or the equivalent) in the field of specialization from an accredited institution. Applicants accepted with deficiencies will find the deficiencies noted in the letter of admission. Deficiencies must be addressed prior to completion of the degree.

Master's Degree in Discipline/Related Discipline: A degree in Music is expected.

Bachelor's Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:
TOEFL: 100 iBT or 600 PBT minimum
Prescreening Video and Audition: Applicants submit a prescreening video via Acceptd (https://app.getacceptd.com/templeboyer). This recording may contain representative movements of the audition material, with the majority of the material having been recorded within the last 12 months. Video recordings of accompanied works must have piano or orchestral accompaniment.

If preliminary approval is granted, an in-person live audition is arranged. Audition repertoire requirements include:

- A Bach unaccompanied suite (complete).
- A major concerto such as Dvorak, Haydn, Lalo, Schumann, Shostakovich, or Tchaikovsky's Variations on a Rococo Theme.
- A sonata of contrasting period/style from the concerto, i.e., Classical period if the concerto is Romantic or Romantic period if the concerto is Classical.
- A virtuoso composition such as At the Fountain, Elfentanz, or Weber's Adagio and Rondo.

Note that video recordings alone are not acceptable for admission, except in the case of students living outside the United States. In this case, applicants must submit a video recording of complete works.


Interview: Applicants are interviewed by the department chair and Associate Dean at the time of the live audition.

Resume: Current resume required.

Writing Examination: An on-site Writing Examination is required as part of the doctoral admissions process. Remedial coursework may be required.

Advanced Standing: The D.M.A. program in Music Performance consists of 55 discrete credits taken beyond the master's degree. At the time of admission, the entire master's degree serves as advanced standing credits. These credits are not counted toward the 55 required credits of the doctoral degree. However, students may transfer into the doctoral program up to 12 additional graduate credits in coursework taken beyond the master's degree. Typically, this coursework is reviewed after admission to the D.M.A. degree and must be approved by the major advisor and the Associate Dean. The maximum number of advanced standing credits awarded is 32.

Additional Requirements: Applicants must:

1. Include with the application a repertoire list indicating works previously studied. The list should indicate which of the works were performed publicly and, if possible, where and when they were performed.
2. Show transcript evidence at the master's level in the area of bibliographical resources in music. If no transcript evidence is available, students must take MUST 8701 Research in Music in addition to the 6 required credits within the History/Theory area.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:
Number of Didactic Credits Required Beyond the Master's: 55

Required Courses:

<table>
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<tr>
<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>MUSC 8500</td>
<td>Instrumental Ensemble</td>
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<tr>
<td>or MUSC 8510</td>
<td>Instrumental Ensemble</td>
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<tr>
<td>MUSC 9004</td>
<td>Doctoral String Major</td>
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<td>MUSC 9011</td>
<td>Doctoral Chamber Music</td>
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</tr>
<tr>
<td>MUSC 9012</td>
<td>Doctoral Chamber Music</td>
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<tr>
<td>MUSC 9014</td>
<td>Doctoral String Major</td>
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<tr>
<td>MUSC 9021</td>
<td>Chamber Music</td>
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<td>MUSC 9024</td>
<td>Doctoral String Major</td>
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<tr>
<td>MUSC 9034</td>
<td>String Major Doctorate</td>
<td>3</td>
</tr>
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<td>MUSC 9184</td>
<td>DMA Solo Public Recital</td>
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</tr>
<tr>
<td>MUSC 9351</td>
<td>Performance Traditions</td>
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<tr>
<td>MUSC 9384</td>
<td>DMA Chamber Recital</td>
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</tr>
<tr>
<td>or MUSC 9684</td>
<td>DMA Lecture-Recital</td>
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<tr>
<td>MUSC 9515</td>
<td>Technical and Interpretive Seminar-Strings</td>
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<tr>
<td>MUSC 9516</td>
<td>Seminar for String Literature</td>
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<td>MUSC 9517</td>
<td>Advanced Conducting-Doctoral</td>
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<tr>
<td>MUSC 9561</td>
<td>Single Reed Woodwind Ped</td>
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<td>MUSC 9784</td>
<td>DMA Performance with Orchestra</td>
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<td>MUSC 9984</td>
<td>DMA Final Recital</td>
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<tr>
<td>MUSC 9999</td>
<td>Monograph Research</td>
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<tr>
<td>MUST 9701</td>
<td>Doctoral Seminar Analysis, Interpretation, and Performance</td>
<td>3</td>
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</table>

Elective in Music History | 3

Minor Area in Music 1 | 12

Total Credit Hours | 55

1 Select from courses at the level of MUSC 8404 or higher.

Recitals:

1. Solo public recital by the conclusion of the fourth term of lessons (MUSC 9184)
2. Chamber Music Recital (MUSC 9384) or Lecture Recital (MUSC 9684)
3. Performance with Orchestra (MUSC 9784)
4. Final Doctoral Recital (MUSC 9984)

Additional Requirements:

All degree credits are to be earned at Temple University.
Written Entrance Examinations:
All doctoral students must take written entrance exams prior to or during the first term of doctoral study. Candidates who fail the entrance examinations the first time may, upon application to the Associate Dean for Graduate Studies of the Boyer College of Music and Dance, be permitted to take the examinations a second time. A third opportunity is not allowed.

To continue registration in the doctoral program beyond the second term of study, all portions of the examinations must be passed or the appropriate review courses (or the equivalent, as determined by the examining department) must be in progress. Students planning to take the written examinations should request a list of dates from the graduate secretary and submit a written request to the Associate Dean one month prior to the administration date.

1. Music History Exam: A general examination covering the history of music is administered. Questions relative to forms, styles, and periods of music are included. It is expected that all examinees are acquainted with the standard literature of music.
2. Harmony Exam: This exam involves completion of a harmonic excerpt in advanced chromatic idiom and the creation of a bass line with figuration (figured bass) in Baroque style.
3. Counterpoint Exam: From a given motive, approximately 20 measures of imitative counterpoint in three parts are to be completed.
4. Form and Analysis Exam: A score is provided at the examination that requires analysis of specified passages.
5. Literature and Pedagogy Exam: This examination focuses on the literature and pedagogy of the instrument of specialization.
6. Writing Sample: A 90-minute examination of the student’s ability to write at the doctoral level is conducted. Examination topics are of a general nature.

Diagnostic Recital:
A diagnostic recital is required and must be performed before a faculty jury at the conclusion of the first term of study. The candidate must contact her/his advisor to arrange the jury. The recital consists of a full program, approximately 45 minutes in length, and may include the performance (with music) of a new composition that is presented to the applicant for study 48 hours in advance of the jury. An analysis of repertoire and technical needs results.

Continuous Registration:
Continuous registration of at least 3 credits must be maintained each term, with the exception of Summer, from the time of acceptance into the D.M.A. program in Music Performance until the completion of all coursework.

Continuation in the D.M.A. Program:
Each course or seminar requires an end-of-term final grade based on papers prepared, recitals presented, discussion, and/or examinations taken during the course of the term. Each term of private study culminates in a performance examination or jury, except during terms in which the student has presented one of the required adjudicated recitals. Screening for continuance in the program after the first term of study is conducted at adjudicated recitals, end-of-the-term juries, and major examinations. This ensures that only the most qualified students continue beyond the early stages of the program.

For all doctoral programs, only grades from “A” to “B-” can be applied toward degree requirements. Grades of less than “B-” cannot be counted toward the degree. If the student earns a grade of less than “B-” s/he may, with permission of the department chair and the Associate Dean, retake the term of study one additional time. The same applies to recitals.

Professional Development Policy:
In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:

1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.
2. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

Independent Study Courses:
Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students’ major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:
All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College’s statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:
Weekly one-hour private lessons are provided for all matriculated master's and doctoral performance majors in good standing, provided at least three additional credits of programmatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

The four terms of private lessons must be taken consecutively, with the exception of summers. Any deviation from this must have the approval of the advisor, department chair, and the Associate Dean of the Boyer
College of Music and Dance. Graduate assistantships and other forms of University-sponsored financial aid do not cover private lesson and recital extension fees.

Written Preliminary Examinations:
The written preliminary examinations may be taken during the final term of coursework, but no later than in the term after completion of coursework. They are administered several times each calendar year, and span two consecutive days of six hours of examination each day. Written and performance examinations should be taken no later than the end of the fifth year to allow for the successful completion of the Final Recital and the writing of the monograph. Preliminary examinations must be successfully completed before formal work on the monograph may be undertaken and before the Final Recital may be presented.

Students planning to take the written examinations should request a list of dates from the graduate secretary and submit a written request to the Associate Dean one month prior to the administration date. Students are then notified in writing of the specific dates and administration times of the preliminary examinations for which they have been scheduled.

The examinations consist of questions relating to the major and minor areas and to musical style; require the student to comment articulately on the style and historical significance of musical compositions; and entail the student discussing and defending the principles of performance on the basis of which s/he would undertake to perform any composition in her/his major area. The questions are prepared by faculty members within the student's major and minor subject areas. At least two graduate faculty members read each section of the written preliminary examinations. Students typically are graded "Pass" or "Fail" based on a consensus of the examination readers.

Oral Preliminary Examinations:
For those students who pass the written preliminary examinations, no oral preliminary examination is required. (This refers only to the oral preliminary examination and does not refer in any way to the oral defense of the dissertation/monograph.)

If a student fails one or more portions of the written preliminary examination, an oral examination is administered by the major advisor and a minimum of two additional faculty members. In the case of failure in one subject area, two members of that department are asked by the student's major advisor to participate with the major advisor in the examination. In the case of failure in more than one subject area, at least one faculty member from each of the departments in which the failure occurred is asked by the student's major advisor to participate in the examination.

The examination is to be a formal oral examination rather than an informal meeting with graduate faculty from departments in which the examination revealed that the student needs further work. This does not preclude such informal meetings, however, in preparation for the oral examination. Upon passing the oral examination, the student, as advised by the examining committee, is permitted to schedule a second and final attempt at the failed portions of the written examination.

Final Recital and Monograph Proposal:
After the successful completion of the written preliminary examinations, MUSC 9984 DMA Final Recital and written monograph are undertaken in consultation with the major advisor, the department chair, and the Doctoral Advisory Committee (DAC). The DAC shall be appointed by the Associate Dean to adjudicate the Final Recital and to guide the student in writing both the monograph proposal and the final document itself. When the student, in consultation with the major advisor and department chair, has identified a tentative advisory committee, the chair gives those names to the Associate Dean for consideration. The Associate Dean appoints the DAC. The DAC consists of no fewer than three persons: two faculty members from within the department, and a third person from outside the department. Members of the DAC serve as the adjudicators of the Final Recital.

After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers within 30 days one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School. Students register for MUSC 9998 during the writing of the monograph proposal and MUSC 9999 after the proposal has been officially approved. Doctoral candidates are required to register for a minimum of 6 credit hours of MUSC 9999 Monograph Research during their program as a whole and must register for a minimum of 1 such credit each term.

Recital Extension:
Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a "Credit/No Credit" basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of "CR." Credit derived from Recital Extension will not be counted toward degree requirements.

1. Recital Extension Fees: Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.

2. Exceptions to Recital Extension:
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer term may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.

3. Failure to Present Recital: The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

Final Oral Examination:
When the monograph is complete, the major advisor of the Doctoral Advisory Committee (DAC) asks the Associate Dean to appoint an outside reader. The DAC plus the outside reader constitute the Dissertation Examining Committee (DEC) for the monograph defense. Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary.
Doctoral candidates must submit a defense copy of the monograph to members of the DEC and the Associate Dean at least two weeks prior to the defense. Students should register for MUSC 9999 Monograph Research (1-6 credits) each term, Fall and Spring, until the final project has been successfully defended. Doctoral candidates are required to register for a minimum of 6 credit hours of MUSC 9999 during their program as a whole, but must register for a minimum of one such credit each term.

**Incompletes:**
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

**Culminating Events:**

**Final Recital:**
Students may present the DMA Final Recital (MUSC 9984) after the preliminary examination has been completed and the DAC has been appointed.

**Proposal:**
After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School within 30 days.

**Monograph:**
Early in the term in which a defense of the monograph is anticipated, the major advisor notifies the Associate Dean that it is time to appoint the Dissertation Examining Committee (DEC). The DEC consists of the DAC plus an "outside" reader, who is an additional graduate faculty member from Temple or another university, but not from the faculty of the student's home department.

Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary. This includes the "Announcement of Oral Defense" form, which must bear all appropriate signatures and be submitted to the Associate Dean.

Two weeks prior to the oral defense, the student submits individual copies of the abstract and the completed dissertation/monograph to the Associate Dean and each member of the DEC. The graduate secretary notifies the Graduate School and posts notices of the impending defense on bulletin boards located within the Boyer College of Music and Dance. All members of the DEC attend the oral defense and then vote to pass or fail the monograph and its defense after the conclusion of the public presentation.

Changes in membership of a DAC or a DEC must be approved by the Associate Dean. The change also must be communicated to the Graduate School.

**Contacts**

**Department Web Address:**
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

**Department Information:**
Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance

2001 N. 13th Street
Philadelphia, PA 19122-6079
terell.stafford@temple.edu
215-204-5527

**Submission Address for Application Materials:**
https://apply.temple.edu/Boyer/

**Department Contacts:**

**Admissions:**
James Short
jshort@temple.edu
215-204-8598

**Program Coordinator:**
Professor Jeffrey Solow
jeffrey.solow@temple.edu
215-204-5527

**Chairperson:**
Professor Terell Stafford
terell.stafford@temple.edu
215-204-8036

**Music Performance/Clarinet, D.M.A.**

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

**About the Program**
The objective of the D.M.A. program in Clarinet Performance is to foster growth and development of the highest and most sophisticated expression of musical interpretation through performance under the guidance of a very highly specialized faculty.

**Time Limit for Degree Completion:** 7 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The degree program can be completed on a full- or part-time basis.

**Accreditation:** The degree program is accredited by the National Association of Schools of Music (NASM).

**Areas of Specialization:** Diverse areas of study are included to ensure the broadest possible cultivation and expansion of students' talents.

**Job Prospects:** Graduates of the program typically find employment in professional music ensembles throughout the world, in colleges and universities, and in private teaching studios, among other employment venues.

**Non-Matriculated Student Policy:** Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

**Financing Opportunities:** Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition...
remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/ internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/ gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master’s students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

**Application Deadline:**

*Fall: November 15*

**APPLY ONLINE to this graduate program.**

**Letters of Reference:**

*Number Required: 2*

*From Whom:* Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

**Coursework Required for Admission Consideration:** All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours. Doctoral candidates must hold the Master of Music degree (or the equivalent) in the field of specialization from an accredited institution. Applicants accepted with deficiencies will find the deficiencies noted in the letter of admission. Deficiencies must be addressed prior to completion of the degree.

**Master's Degree in Discipline/Related Discipline:** A degree in Music is expected.

**Bachelor's Degree in Discipline/Related Discipline:** A degree in Music is expected.

**Statement of Goals:** Include your special interests within the discipline and expectations for the program.

**Standardized Test Scores:**

*TOEFL: 100 iBT or 600 PBT minimum*

**Prescreening Video and Audition:** Applicants submit a prescreening video via Acceptd (https://app.getacceptd.com/templeboyer). This recording may contain representative movements of the audition material, with the majority of the material having been recorded within the last 12 months. Video recordings of accompanied works must have piano or orchestral accompaniment.

If preliminary approval is granted, an in-person live audition is arranged. Audition repertoire requirements include:

- A concerto, sonata, or solo piece from the Classical, Romantic, or Impressionistic period.
- A concerto, sonata, or solo piece from the 20th Century.

- Excerpts from the standard orchestral repertoire.

All works, except sonatas, should be memorized. Applicants must arrange for an accompanist for the live audition.

Note that video recordings alone are not acceptable for admission, except in the case of students living outside the United States. In this case, applicants must submit a video recording of complete works.

**Scholarly Paper:** Applicants must upload a scholarly paper to Acceptd (https://app.getacceptd.com/templeboyer).

**Interview:** Applicants are interviewed by the department chair and Associate Dean at the time of the live audition.

**Resume:** Current resume required.

**Writing Examination:** An on-site Writing Examination is required as part of the doctoral admissions process. Remedial coursework may be required.

**Advanced Standing:** The D.M.A. program in Music Performance consists of 55 discrete credits taken beyond the master's degree. At the time of admission, the entire master's degree serves as advanced standing credits. These credits are not counted toward the 55 required credits of the doctoral degree. However, students may transfer into the doctoral program up to 12 additional graduate credits in coursework taken beyond the master's degree. Typically, this coursework is reviewed after admission to the D.M.A. degree and must be approved by the major advisor and the Associate Dean. The maximum number of advanced standing credits awarded is 30.

**Additional Requirements:** Applicants must:

1. Include with the application a repertoire list indicating works previously studied. The list should indicate which of the works were performed publicly and, if possible, where and when they were performed.
2. Show transcript evidence at the master's level in the area of bibliographical resources in music. If no transcript evidence is available, students must take MUST 8701 Research in Music in addition to the 6 required credits within the History/Theory area.

**Other:** Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College’s Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

**General Program Requirements:**

*Number of Didactic Credits Required Beyond the Master's: 54*
Required Courses:

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<tr>
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Electives

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<td>Advanced Music</td>
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Minor Area in Music 1

Total Credit Hours 1

54

1 Select from courses at the level of MUSC 8404 or higher.

Recitals:

1. Solo public recital by the conclusion of the fourth term of lessons (MUSC 9534)
2. Solo public recital (MUSC 9184) or Chamber Music Recital (MUSC 9884)
3. Lecture Recital (MUSC 9684) or Performance with Orchestra (MUSC 9784)
4. Final Doctoral Recital (MUSC 9984)

Additional Requirements:

All degree credits are to be earned at Temple University.

Written Entrance Examinations:

All doctoral students must take written entrance exams prior to or during the first term of doctoral study. Candidates who fail the entrance examinations the first time may, upon application to the Associate Dean for Graduate Studies of the Boyer College of Music and Dance, be permitted to take the examinations a second time. A third opportunity is not allowed.

To continue registration in the doctoral program beyond the second term of study, all portions of the examinations must be passed or the appropriate review courses (or the equivalent, as determined by the examining department) must be in progress. Students planning to take the written examinations should request a list of dates from the graduate secretary and submit a written request to the Associate Dean one month prior to the administration date.

1. Music History Exam: A general examination covering the history of music is administered. Questions relative to forms, styles, and periods of music are included. It is expected that all examinees are acquainted with the standard literature of music.
2. Harmony Exam: This exam involves completion of a harmonic excerpt in advanced chromatic idiom and the creation of a bass line with figuration (figured bass) in Baroque style.
3. Counterpoint Exam: From a given motive, approximately 20 measures of imitative counterpoint in three parts are to be completed.
4. Form and Analysis Exam: A score is provided at the examination that requires analysis of specified passages.
5. Literature and Pedagogy Exam: This examination focuses on the literature and pedagogy of the instrument of specialization.
6. Writing Sample: A 90-minute examination of the student's ability to write at the doctoral level is conducted. Examination topics are of a general nature.

Diagnostic Recital:

A diagnostic recital is required and must be performed before a faculty jury at the conclusion of the first term of study. The candidate must contact her/his advisor to arrange the jury. The recital consists of a full program, approximately 45 minutes in length, and may include the performance (with music) of a new composition that is presented to the applicant for study 48 hours in advance of the jury. An analysis of repertoire and technical needs results.

Continuous Registration:

Continuous registration of at least 3 credits must be maintained each term, with the exception of Summer, from the time of acceptance into the D.M.A. program in Music Performance until the completion of all coursework.

Continuation in the D.M.A. Program:

Each course or seminar requires an end-of-term final grade based on papers prepared, recitals presented, discussion, and/or examinations taken during the course of the term. Each term of private study culminates in a performance examination or jury, except during terms in which the student has presented one of the required adjudicated recitals. Screening for continuance in the program after the first term of study is conducted at adjudicated recitals, end-of-the-term juries, and major examinations. This ensures that only the most qualified students continue beyond the early stages of the program.

For all doctoral programs, only grades from "A" to "B-" can be applied toward degree requirements. Grades of less than "B-" cannot be counted toward the degree. If the student earns a grade of less than "B-", s/he may, with permission of the department chair and the Associate Dean, retake the term of study one additional time. The same applies to recitals.

Professional Development Policy:

In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and
open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:

1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.
2. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

Independent Study Courses:
Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:
All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College’s statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:
Weekly one-hour private lessons are provided for all matriculated master's and doctoral performance majors in good standing, provided at least three additional credits of programmatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

The four terms of private lessons must be taken consecutively, with the exception of summers. Any deviation from this must have the approval of the advisor, department chair, and the Associate Dean of the Boyer College of Music and Dance. Graduate assistantships and other forms of University-sponsored financial aid do not cover private lesson and recital extension fees.

Written Preliminary Examinations:
The written preliminary examinations may be taken during the final term of coursework, but no later than in the term after completion of coursework. They are administered several times each calendar year, and span two consecutive days of six hours of examination each day. Written and performance examinations should be taken no later than the end of the fifth year to allow for the successful completion of the Final Recital and the writing of the monograph. Preliminary examinations must be successfully completed before formal work on the monograph may be undertaken and before the Final Recital may be presented.

Students planning to take the written examinations should request a list of dates from the graduate secretary and submit a written request to the Associate Dean one month prior to the administration date. Students are then notified in writing of the specific dates and administration times of the preliminary examinations for which they have been scheduled.

The examinations consist of questions relating to the major and minor areas and to musical style; require the student to comment articulately on the style and historical significance of musical compositions; and entail the student discussing and defending the principles of performance on the basis of which s/he would undertake to perform any composition in her/his major area. The questions are prepared by faculty members within the student's major and minor subject areas. At least two graduate faculty members read each section of the written preliminary examinations. Students typically are graded "Pass" or "Fail" based on a consensus of the examination readers.

Oral Preliminary Examinations:
For those students who pass the written preliminary examinations, no oral preliminary examination is required. (This refers only to the oral preliminary examination and does not refer in any way to the oral defense of the dissertation/monograph.)

If a student fails one or more portions of the written preliminary examination, an oral examination is administered by the major advisor and a minimum of two additional faculty members. In the case of failure in one subject area, two members of that department are asked by the student's major advisor to participate with the major advisor in the examination. In the case of failure in more than one subject area, at least one faculty member from each of the departments in which the failure occurred is asked by the student's major advisor to participate in the examination.

The examination is to be a formal oral examination rather than an informal meeting with graduate faculty from departments in which the examination revealed that the student needs further work. This does not preclude such informal meetings, however, in preparation for the oral examination. Upon passing the oral examination, the student, as advised by the examining committee, is permitted to schedule a second and final attempt at the failed portions of the written examination.

Final Recital and Monograph Proposal:
After the successful completion of the written preliminary examinations, MUSC 9984 DMA Final Recital and written monograph are undertaken in consultation with the major advisor, the department chair, and the Doctoral Advisory Committee (DAC). The DAC shall be appointed by the Associate Dean to adjudicate the Final Recital and to guide the student in writing both the monograph proposal and the final document itself. When the student, in consultation with the major advisor and department chair, has identified a tentative advisory committee, the chair gives those names to the Associate Dean for consideration. The Associate Dean appoints the DAC. The DAC consists of no fewer than three persons: two faculty members from within the department, and a third person from outside the department. Members of the DAC serve as the adjudicators of the Final Recital.

After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers within 30 days one copy to each member of the DAC,
the department chair, the Associate Dean, and the Graduate School. Students register for MUSC 9998 during the writing of the monograph proposal and MUSC 9999 after the proposal has been officially approved. Doctoral candidates are required to register for a minimum of 6 credit hours of MUSC 9999 Monograph Research during their program as a whole and must register for a minimum of 1 such credit each term.

Recital Extension:

Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a “Credit/No Credit” basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of “CR.” Credit derived from Recital Extension will not be counted toward degree requirements.

1. Recital Extension Fees: Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.

2. Exceptions to Recital Extension:
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.

3. Failure to Present Recital: The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

Final Oral Examination:

When the monograph is complete, the major advisor of the Doctoral Advisory Committee (DAC) asks the Associate Dean to appoint an outside reader. The DAC plus the outside reader constitute the Dissertation Examining Committee (DEC) for the monograph defense. Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary.

Doctoral candidates must submit a defense copy of the monograph to members of the DEC and the Associate Dean at least two weeks prior to the defense. Students should register for MUSC 9999 Monograph Research (1-6 credits) each term, Fall and Spring, until the final project has been successfully defended. Doctoral candidates are required to register for a minimum of 6 credit hours of MUSC 9999 during their program as a whole, but must register for a minimum of one such credit each term.

Incompletes:

All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:

Final Recital:

Students may present the DMA Final Recital (MUSC 9984) after the preliminary examination has been completed and the DAC has been appointed.

Proposal:

After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers one copy to each member of the DEC, the department chair, the Associate Dean, and the Graduate School within 30 days.

Monograph:

Early in the term in which a defense of the monograph is anticipated, the major advisor notifies the Associate Dean that it is time to appoint the Dissertation Examining Committee (DEC). The DEC consists of the DAC plus an “outside” reader, who is an additional graduate faculty member from Temple or another university, but not from the faculty of the student’s home department.

Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary. This includes the “Announcement of Oral Defense” form, which must bear all appropriate signatures and be submitted to the Associate Dean.

Two weeks prior to the oral defense, the student submits individual copies of the abstract and the completed dissertation/monograph to the Associate Dean and each member of the DEC. The graduate secretary notifies the Graduate School and posts notices of the impending defense on bulletin boards located within the Boyer College of Music and Dance. All members of the DEC attend the oral defense and then vote to pass or fail the monograph and its defense after the conclusion of the public presentation.

Changes in membership of a DAC or a DEC must be approved by the Associate Dean. The change also must be communicated to the Graduate School.

Contacts

Department Web Address:

http://www.temple.edu/boyer/academicprograms/instrumental-studies/

Department Information:

Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
terell.stafford@temple.edu
215-204-5527

Submission Address for Application Materials:

https://apply.temple.edu/Boyer/

Department Contacts:

Admissions:
Music Performance/Double Bass, D.M.A.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program

The objective of the D.M.A. program in Double Bass Performance is to foster growth and development of the highest and most sophisticated expression of musical interpretation through performance under the guidance of a very highly specialized faculty.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Accreditation: The degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Diverse areas of study are included to ensure the broadest possible cultivation and expansion of students’ talents.

Job Prospects: Graduates of the program typically find employment in professional music ensembles throughout the world, in colleges and universities, and in private teaching studios, among other employment venues.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/ internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer’s website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master’s students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:

Fall: November 15

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant’s abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours. Doctoral candidates must hold the Master of Music degree (or the equivalent) in the field of specialization from an accredited institution. Applicants accepted with deficiencies will find the deficiencies noted in the letter of admission. Deficiencies must be addressed prior to completion of the degree.

Master’s Degree in Discipline/Related Discipline: A degree in Music is expected.

Bachelor’s Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:

TOEFL: 100 iBT or 600 PBT minimum

Prescreening Video and Audition: Applicants submit a prescreening video via Acceptd (https://app.getacceptd.com/templeboyer). This recording may contain representative movements of the audition material, with the majority of the material having been recorded within the last 12 months. Video recordings of accompanied works must have piano or orchestral accompaniment.

If preliminary approval is granted, an in-person live audition is arranged. Audition repertoire requirements include:

- Two contrasting movements from a Bach unaccompanied suite.
- A major concerto such as Bottesini, Capuzzi, Dittersdorf, or Koussevitzky.
- A sonata or similar work of contrasting period/style from the concerto, i.e., Classical or 20th Century if the concerto is Romantic, or Romantic or Classical if the concerto is 20th Century.
- A virtuoso composition such as Bottesini, Paganini, Simandl, or the like.

Note that video recordings alone are not acceptable for admission, except in the case of students living outside the United States. In this case, applicants must submit a video recording of complete works.

Interview: Applicants are interviewed by the department chair and Associate Dean at the time of the live audition.

Resume: Current resume required.

Writing Examination: An on-site Writing Examination is required as part of the doctoral admissions process. Remedial coursework may be required.

Advanced Standing: The D.M.A. program in Music Performance consists of 55 discrete credits taken beyond the master's degree. At the time of admission, the entire master's degree serves as advanced standing credits. These credits are not counted toward the 55 required credits of the doctoral degree. However, students may transfer into the doctoral program up to 12 additional graduate credits in coursework taken beyond the master's degree. Typically, this coursework is reviewed after admission to the D.M.A. degree and must be approved by the major advisor and the Associate Dean. The maximum number of advanced standing credits awarded is 32.

Additional Requirements: Applicants must:

1. Include with the application a repertoire list indicating works previously studied. The list should indicate which of the works were performed publicly and, if possible, where and when they were performed.
2. Show transcript evidence at the master's level in the area of bibliographical resources in music. If no transcript evidence is available, students must take MUSC 8701 Research in Music in addition to the 6 required credits within the History/Theory area.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:

Number of Didactic Credits Required Beyond the Master's: 55

Required Courses:

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<td>MUSC 9384</td>
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<td>Advanced Conducting-Doctoral</td>
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<td>MUST 9701</td>
<td>Doctoral Seminar Analysis, Interpretation, and Performance</td>
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Elective in Music History

Minor Area in Music 1

Total Credit Hours 55

1 Select from courses at the level of MUSC 8404 or higher.

Recitals:

1. Solo public recital by the conclusion of the fourth term of lessons (MUSC 9184)
2. Chamber Music Recital (MUSC 9384) or Lecture Recital (MUSC 9684)
3. Performance with Orchestra (MUSC 9784)
4. Final Doctoral Recital (MUSC 9984)

Additional Requirements:

All degree credits are to be earned at Temple University.

Written Entrance Examinations:

All doctoral students must take written entrance exams prior to or during the first term of doctoral study. Candidates who fail the entrance examinations the first time may, upon application to the Associate Dean for Graduate Studies of the Boyer College of Music and Dance, be permitted to take the examinations a second time. A third opportunity is not allowed.

To continue registration in the doctoral program beyond the second term of study, all portions of the examinations must be passed or the appropriate review courses (or the equivalent, as determined by the examining department) must be in progress. Students planning to take the written examinations should request a list of dates from the graduate secretary and submit a written request to the Associate Dean one month prior to the administration date.

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2. Harmony Exam: This exam involves completion of a harmonic excerpt in advanced chromatic idiom and the creation of a bass line with figuration (figured bass) in Baroque style.
3. Counterpoint Exam: From a given motive, approximately 20 measures of imitative counterpoint in three parts are to be completed.
4. Form and Analysis Exam: A score is provided at the examination that requires analysis of specified passages.
5. Literature and Pedagogy Exam: This examination focuses on the literature and pedagogy of the instrument of specialization.
6. Writing Sample: A 90-minute examination of the student's ability to write at the doctoral level is conducted. Examination topics are of a general nature.

Diagnostic Recital:
A diagnostic recital is required and must be performed before a faculty jury at the conclusion of the first term of study. The candidate must contact her/his advisor to arrange the jury. The recital consists of a full program, approximately 45 minutes in length, and may include the performance (with music) of a new composition that is presented to the applicant for study 48 hours in advance of the jury. An analysis of repertoire and technical needs results.

Continuous Registration:
Continuous registration of at least 3 credits must be maintained each term, with the exception of Summer, from the time of acceptance into the D.M.A. program in Music Performance until the completion of all coursework.

Continuation in the D.M.A. Program:
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For all doctoral programs, only grades from "A" to "B-" can be applied toward degree requirements. Grades of less than "B-" cannot be counted toward the degree. If the student earns a grade of less than "B-", s/he may, with permission of the department chair and the Associate Dean, retake the term of study one additional time. The same applies to recitals.

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All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

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The written preliminary examinations may be taken during the final term of coursework, but no later than in the term after completion of coursework. They are administered several times each calendar year, and span two consecutive days of six hours of examination each day. Written and performance examinations should be taken no later than the end of the fifth year to allow for the successful completion of the Final Recital and the writing of the monograph. Preliminary examinations must be successfully completed before formal work on the monograph may be undertaken and before the Final Recital may be presented.

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After the successful completion of the written preliminary examinations, MUSC 9984 DMA Final Recital and written monograph are undertaken in consultation with the major advisor, the department chair, and the Doctoral Advisory Committee (DAC). The DAC shall be appointed by the Associate Dean to adjudicate the Final Recital and to guide the student in writing both the monograph proposal and the final document itself. When the student, in consultation with the major advisor and department chair, has identified a tentative advisory committee, the chair gives those names to the Associate Dean for consideration. The Associate Dean appoints the DAC. The DAC consists of no fewer than three persons: two faculty members from within the department, and a third person from outside the department. Members of the DAC serve as the adjudicators of the Final Recital.

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**Recital Extension:**
Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a “Credit/No Credit” basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of “CR.” Credit derived from Recital Extension will not be counted toward degree requirements.

1. **Recital Extension Fees:** Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.
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   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
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3. **Failure to Present Recital:** The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

**Final Oral Examination:**
When the monograph is complete, the major advisor of the Doctoral Advisory Committee (DAC) asks the Associate Dean to appoint an outside reader. The DAC plus the outside reader constitute the Dissertation Examining Committee (DEC) for the monograph defense. Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary.

Doctoral candidates must submit a defense copy of the monograph to members of the DEC and the Associate Dean at least two weeks prior to the defense. Students should register for MUSC 9999 Monograph Research (1-6 credits) each term, Fall and Spring, until the final project has been successfully defended. Doctoral candidates are required to register for a minimum of 6 credit hours of MUSC 9999 during their program as a whole, but must register for a minimum of one such credit each term.

**Incompletes:**
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

**Culminating Events:**

**Final Recital:**
Students may present the DMA Final Recital (MUSC 9984) after the preliminary examination has been completed and the DAC has been appointed.

**Proposal:**
After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School within 30 days.
Schools, Colleges, and Divisions

Monograph:
Early in the term in which a defense of the monograph is anticipated, the major advisor notifies the Associate Dean that it is time to appoint the Dissertation Examining Committee (DEC). The DEC consists of the DAC plus an “outside” reader, who is an additional graduate faculty member from Temple or another university, but not from the faculty of the student’s home department.

Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary. This includes the “Announcement of Oral Defense” form, which must bear all appropriate signatures and be submitted to the Associate Dean.

Two weeks prior to the oral defense, the student submits individual copies of the abstract and the completed dissertation/monograph to the Associate Dean and each member of the DEC. The graduate secretary notifies the Graduate School and posts notices of the impending defense on bulletin boards located within the Boyer College of Music and Dance. All members of the DEC attend the oral defense and then vote to pass or fail the monograph and its defense after the conclusion of the public presentation.

Changes in membership of a DAC or a DEC must be approved by the Associate Dean. The change also must be communicated to the Graduate School.

Contacts

Department Web Address:
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

Department Information:

Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
terell.stafford@temple.edu
215-204-5527

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:

Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Professor Jeffrey Solow
jeffrey.solow@temple.edu
215-204-5527

Chairperson:
Professor Terell Stafford
terell.stafford@temple.edu
215-204-8036

Music Performance/Euphonium, D.M.A.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program

The objective of the D.M.A. program in Euphonium Performance is to foster growth and development of the highest and most sophisticated expression of musical interpretation through performance under the guidance of a very highly specialized faculty.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Accreditation: The degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Diverse areas of study are included to ensure the broadest possible cultivation and expansion of students' talents.

Job Prospects: Graduates of the program typically find employment in professional music ensembles throughout the world, in colleges and universities, and in private teaching studios, among other employment venues.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:
Fall: November 15

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2
From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant’s abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours. Doctoral candidates must hold the Master of Music degree (or the equivalent) in the field of specialization from an accredited institution. Applicants accepted with deficiencies will find the deficiencies noted in the letter of admission. Deficiencies must be addressed prior to completion of the degree.

Master’s Degree in Discipline/Related Discipline: A degree in Music is expected.

Bachelor’s Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:
TOEFL: 100 iBT or 600 PBT minimum

Prescreening Video and Audition: Applicants submit a prescreening video via Acceptd (https://app.getacceptd.com/templeboyer). This recording may contain representative movements of the audition material, with the majority of the material having been recorded within the last 12 months. Video recordings of accompanied works must have piano or orchestral accompaniment.

If preliminary approval is granted, an in-person live audition is arranged. Audition repertoire requirements include:

- A concerto, sonata, or solo piece from the Classical, Romantic, or Impressionistic period.
- A concerto, sonata, or solo piece from the 20th Century.
- Excerpts from the standard orchestral repertoire.

All works, except sonatas, should be memorized.

Note that video recordings alone are not acceptable for admission, except in the case of students living outside the United States. In this case, applicants must submit a video recording of complete works.


Interview: Applicants are interviewed by the department chair and Associate Dean at the time of the live audition.

Resume: Current resume required.

Writing Examination: An on-site Writing Examination is required as part of the doctoral admissions process. Remedial coursework may be required.

Advanced Standing: The D.M.A. program in Music Performance consists of 55 discrete credits taken beyond the master’s degree. At the time of admission, the entire master’s degree serves as advanced standing credits. These credits are not counted toward the 55 required credits of the doctoral degree. However, students may transfer into the doctoral program up to 12 additional graduate credits in coursework taken beyond the master’s degree. Typically, this coursework is reviewed after admission to the D.M.A. degree and must be approved by the major advisor and the Associate Dean. The maximum number of advanced standing credits awarded is 30.

Additional Requirements: Applicants must:

1. Include with the application a repertoire list indicating works previously studied. The list should indicate which of the works were performed publicly and, if possible, where and when they were performed.
2. Show transcript evidence at the master’s level in the area of bibliographical resources in music. If no transcript evidence is available, students must take MUST 8701 Research in Music in addition to the 6 required credits within the History/Theory area.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College’s Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:
Number of Didactic Credits Required Beyond the Master’s: 54

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 9011</td>
<td>Doctoral Chamber Music</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 9012</td>
<td>Doctoral Chamber Music</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 9184</td>
<td>DMA Solo Public Recital</td>
<td>1</td>
</tr>
<tr>
<td>or MUSC 9884 DMA Major Opera Role</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUSC 9351</td>
<td>Performance Traditions</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 9504</td>
<td>Doctoral Instrumental Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 9514</td>
<td>Doctoral Instrumental Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 9517</td>
<td>Advanced Conducting-Doctoral</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 9524</td>
<td>Doctoral Instrumental Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 9534</td>
<td>Doctoral Instrumental Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 9561</td>
<td>Single Reed Woodwind Ped</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 9684</td>
<td>DMA Lecture-Recital</td>
<td>1</td>
</tr>
<tr>
<td>or MUSC 9784 DMA Performance with Orchestra</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUSC 9701</td>
<td>Doct Perf Practice I</td>
<td>3</td>
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<tr>
<td>or MUSC 9702 Doct Perf Practice II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUSC 9884</td>
<td>DMA Major Opera Role</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 9999</td>
<td>Monograph Research</td>
<td>6</td>
</tr>
<tr>
<td>MUST 9701</td>
<td>Doctoral Seminar Analysis, Interpretation, and Performance</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives
Recitals:

1. Solo public recital by the conclusion of the fourth term of lessons (MUSC 9534)
2. Solo public recital (MUSC 9184) or Chamber Music Recital (MUSC 9884)
3. Lecture Recital (MUSC 9684) or Performance with Orchestra (MUSC 9784)
4. Final Doctoral Recital (MUSC 9984)

Additional Requirements:

All degree credits are to be earned at Temple University.

Written Entrance Examinations:

All doctoral students must take written entrance exams prior to or during the first term of doctoral study. Candidates who fail the entrance examinations the first time may, upon application to the Associate Dean for Graduate Studies of the Boyer College of Music and Dance, be permitted to take the examinations a second time. A third opportunity is not allowed.

To continue registration in the doctoral program beyond the second term of study, all portions of the examinations must be passed or the appropriate review courses (or the equivalent, as determined by the examining department) must be in progress. Students planning to take the written examinations should request a list of dates from the graduate secretary and submit a written request to the Associate Dean one month prior to the administration date.

1. Music History Exam: A general examination covering the history of music is administered. Questions relative to forms, styles, and periods of music are included. It is expected that all examinees are acquainted with the standard literature of music.
2. Harmony Exam: This exam involves completion of a harmonic excerpt in advanced chromatic idiom and the creation of a bass line with figuration (figured bass) in Baroque style.
3. Counterpoint Exam: From a given motive, approximately 20 measures of imitative counterpoint in three parts are to be completed.
4. Form and Analysis Exam: A score is provided at the examination that requires analysis of specified passages.
5. Literature and Pedagogy Exam: This examination focuses on the literature and pedagogy of the instrument of specialization.
6. Writing Sample: A 90-minute examination of the student's ability to write at the doctoral level is conducted. Examination topics are of a general nature.

Diagnostic Recital:

A diagnostic recital is required and must be performed before a faculty jury at the conclusion of the first term of study. The candidate must contact her/his advisor to arrange the jury. The recital consists of a full program, approximately 45 minutes in length, and may include the performance (with music) of a new composition that is presented to the applicant for study 48 hours in advance of the jury. An analysis of repertoire and technical needs results.

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   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall
Final Oral Examination:
When the monograph is complete, the major advisor of the Doctoral Advisory Committee (DAC) asks the Associate Dean to appoint an outside reader. The DAC plus the outside reader constitute the Dissertation Examining Committee (DEC) for the monograph defense. Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary.

Doctoral candidates must submit a defense copy of the monograph to the Associate Dean at least two weeks prior to the oral defense and then vote to pass or fail the monograph and its defense after the conclusion of the public presentation.

Changes in membership of a DAC or a DEC must be approved by the Associate Dean. The change also must be communicated to the Graduate School.

Contacts
Department Web Address:
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

Department Information:
Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
terell.stafford@temple.edu
215-204-8527

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Eric Schweingruber
eschwein@temple.edu
215-204-9792

Chairperson:
Professor Terell Stafford
terell.stafford@temple.edu
215-204-8036

Music Performance/Flute, D.M.A.
Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program
The objective of the D.M.A. program in Flute Performance is to foster growth and development of the highest and most sophisticated expression of musical interpretation through performance under the guidance of a very highly specialized faculty.

Time Limit for Degree Completion: 7 years
Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Accreditation: The degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Diverse areas of study are included to ensure the broadest possible cultivation and expansion of students' talents.

Job Prospects: Graduates of the program typically find employment in professional music ensembles throughout the world, in colleges and universities, and in private teaching studios, among other employment venues.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer’s website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master’s students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:

Fall: November 15

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant’s abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours. Doctoral candidates must hold the Master of Music degree (or the equivalent) in the field of specialization from an accredited institution. Applicants accepted with deficiencies will find the deficiencies noted in the letter of admission. Deficiencies must be addressed prior to completion of the degree.

Master’s Degree in Discipline/Related Discipline: A degree in Music is expected.

Bachelor’s Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:

TOEFL: 100 iBT or 600 PBT minimum

Prescreening Video and Audition: Applicants submit a prescreening video via Acceptd (https://app.getacceptd.com/templeboyer). This recording may contain representative movements of the audition material, with the majority of the material having been recorded within the last 12 months. Video recordings of accompanied works must have piano or orchestral accompaniment.

If preliminary approval is granted, an in-person live audition is arranged. Audition repertoire requirements include:

- A concerto, sonata, or solo piece from the Classical, Romantic, or Impressionistic period.
- A concerto, sonata, or solo piece from the 20th Century.
- Excerpts from the standard orchestral repertoire.

All works, except sonatas, should be memorized. Applicants must arrange for an accompanist for the live audition.

Note that video recordings alone are not acceptable for admission, except in the case of students living outside the United States. In this case, applicants must submit a video recording of complete works.


Interview: Applicants are interviewed by the department chair and Associate Dean at the time of the live audition.

Resume: Current resume required.

Writing Examination: An on-site Writing Examination is required as part of the doctoral admissions process. Remedial coursework may be required.

Advanced Standing: The D.M.A. program in Music Performance consists of 55 discrete credits taken beyond the master’s degree. At the time of admission, the entire master’s degree serves as advanced standing credits. These credits are not counted toward the 55 required credits of the doctoral degree. However, students may transfer into the doctoral program up to 12 additional graduate credits in coursework taken beyond the master’s degree. Typically, this coursework is reviewed after admission to the D.M.A. degree and must be approved by the major advisor and the Associate Dean. The maximum number of advanced standing credits awarded is 30.

Additional Requirements: Applicants must:

1. Include with the application a repertoire list indicating works previously studied. The list should indicate which of the works were performed publicly and, if possible, where and when they were performed.
2. Show transcript evidence at the master’s level in the area of bibliographical resources in music. If no transcript evidence is available, students must take MUST 8701 Research in Music in addition to the 6 required credits within the History/Theory area.
Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:
Number of Didactic Credits Required Beyond the Master's: 54

Required Courses:

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<tr>
<th>Code</th>
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<td>DMA Solo Public Recital</td>
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<td>or MUSC 9884 DMA Major Opera Role</td>
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<tr>
<td>MUSC 9351</td>
<td>Performance Traditions</td>
<td>3</td>
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<td>MUSC 9504</td>
<td>Doctoral Instrumental Major</td>
<td>3</td>
</tr>
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<td>MUSC 9514</td>
<td>Doctoral Instrumental Major</td>
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<td>MUSC 9524</td>
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<td>MUSC 9534</td>
<td>Doctoral Instrumental Major</td>
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<td>MUSC 9561</td>
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<tr>
<td>MUSC 9684</td>
<td>DMA Lecture-Recital</td>
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<tr>
<td>or MUSC 9784 DMA Performance with Orchestra</td>
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<tr>
<td>MUSC 9701</td>
<td>Doct Perf Practice I</td>
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<tr>
<td>or MUSC 9702 Doct Perf Practice II</td>
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<tr>
<td>MUSC 9984</td>
<td>DMA Final Recital</td>
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<td>MUSC 9999</td>
<td>Monograph Research</td>
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<tr>
<td>MUST 9701</td>
<td>Doctoral Seminar Analysis, Interpretation, and</td>
<td>3</td>
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<tr>
<td>Performance</td>
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</table>

Electives

- Music History                                           | 3            |
- Advanced Music                                          | 3            |

Minor Area in Music: 12

Total Credit Hours: 54

1 Select from courses at the level of MUSC 8404 or higher.

Recitals:

- 1. Solo public recital by the conclusion of the fourth term of lessons (MUSC 9534)
- 2. Solo public recital (MUSC 9184) or Chamber Music Recital (MUSC 9884)
- 3. Lecture Recital (MUSC 9684) or Performance with Orchestra (MUSC 9784)
- 4. Final Doctoral Recital (MUSC 9984)

Additional Requirements:

All degree credits are to be earned at Temple University.

Written Entrance Examinations:

All doctoral students must take written entrance exams prior to or during the first term of doctoral study. Candidates who fail the entrance examinations the first time may, upon application to the Associate Dean for Graduate Studies of the Boyer College of Music and Dance, be permitted to take the examinations a second time. A third opportunity is not allowed.

To continue registration in the doctoral program beyond the second term of study, all portions of the examinations must be passed or the appropriate review courses (or the equivalent, as determined by the examining department) must be in progress. Students planning to take the written examinations should request a list of dates from the graduate secretary and submit a written request to the Associate Dean one month prior to the administration date.

Diagnostic Recital:

A diagnostic recital is required and must be performed before a faculty jury at the conclusion of the first term of study. The candidate must contact her/his advisor to arrange the jury. The recital consists of a full program, approximately 45 minutes in length, and may include the performance (with music) of a new composition that is presented to the applicant for study 48 hours in advance of the jury. An analysis of repertoire and technical needs results.

Continuous Registration:

Continuous registration of at least 3 credits must be maintained each term, with the exception of Summer, from the time of acceptance into the D.M.A. program in Music Performance until the completion of all coursework.

Continuation in the D.M.A. Program:

Each course or seminar requires an end-of-term final grade based on papers prepared, recitals presented, discussion, and/or examinations taken during the course of the term. Each term of private study culminates in a performance examination or jury, except during terms in which the student has presented one of the required adjudicated recitals. Screening for continuance in the program after the first term of study...
is conducted at adjudicated recitals, end-of-the-term juries, and major examinations. This ensures that only the most qualified students continue beyond the early stages of the program.

For all doctoral programs, only grades from "A" to "B-" can be applied toward degree requirements. Grades of less than "B-" cannot be counted toward the degree. If the student earns a grade of less than "B-" s/he may, with permission of the department chair and the Associate Dean, retake the term of study one additional time. The same applies to recitals.

Professional Development Policy:
In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:
1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.
2. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

Independent Study Courses:
Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:
All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:
Weekly one-hour private lessons are provided for all matriculated master's and doctoral performance majors in good standing, provided at least three additional credits of programmatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

The four terms of private lessons must be taken consecutively, with the exception of summers. Any deviation from this must have the approval of the advisor, department chair, and the Associate Dean of the Boyer College of Music and Dance. Graduate assistantships and other forms of University-sponsored financial aid do not cover private lesson and recital extension fees.

Written Preliminary Examinations:
The written preliminary examinations may be taken during the final term of coursework, but no later than in the term after completion of coursework. They are administered several times each calendar year, and span two consecutive days of six hours of examination each day. Written and performance examinations should be taken no later than the end of the fifth year to allow for the successful completion of the Final Recital and the writing of the monograph. Preliminary examinations must be successfully completed before formal work on the monograph may be undertaken and before the Final Recital may be presented.

Students planning to take the written examinations should request a list of dates from the graduate secretary and submit a written request to the Associate Dean one month prior to the administration date. Students are then notified in writing of the specific dates and administration times of the preliminary examinations for which they have been scheduled.

The examinations consist of questions relating to the major and minor areas and to musical style; require the student to comment articulately on the style and historical significance of musical compositions; and entail the student discussing and defending the principles of performance on the basis of which s/he would undertake to perform any composition in her/his major area. The questions are prepared by faculty members within the student's major and minor subject areas. At least two graduate faculty members read each section of the written preliminary examinations. Students typically are graded "Pass" or "Fail" based on a consensus of the examination readers.

Oral Preliminary Examinations:
For those students who pass the written preliminary examinations, no oral preliminary examination is required. (This refers only to the oral preliminary examination and does not refer in any way to the oral defense of the dissertation/monograph.)

If a student fails one or more portions of the written preliminary examination, an oral examination is administered by the major advisor and a minimum of two additional faculty members. In the case of failure in one subject area, two members of that department are asked by the student's major advisor to participate with the major advisor in the examination. In the case of failure in more than one subject area, at least one faculty member from each of the departments in which the failure occurred is asked by the student's major advisor to participate in the examination.

The examination is to be a formal oral examination rather than an informal meeting with graduate faculty from departments in which the examination revealed that the student needs further work. This does not preclude such informal meetings, however, in preparation for the oral examination. Upon passing the oral examination, the student, as advised by the examining committee, is permitted to schedule a second and final attempt at the failed portions of the written examination.

Final Recital and Monograph Proposal:
After the successful completion of the written preliminary examinations, MUSC 9984 DMA Final Recital and written monograph are undertaken in consultation with the major advisor, the department chair, and the Doctoral Advisory Committee (DAC). The DAC shall be appointed by the Associate Dean to adjudicate the Final Recital and to guide the student in writing both the monograph proposal and the final document itself. When the student, in consultation with the major advisor and department chair, has identified a tentative advisory committee, the chair gives those names to the Associate Dean for consideration. The Associate Dean appoints the DAC. The DAC consists of no fewer than three persons: two faculty members from within the department, and a third person from outside the department. Members of the DAC serve as the adjudicators of the Final Recital.

After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers within 30 days one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School. Students register for MUSC 9998 during the writing of the monograph proposal and MUSC 9999 after the proposal has been officially approved. Doctoral candidates are required to register for a minimum of 6 credit hours of MUSC 9999 Monograph Research during their program as a whole and must register for a minimum of 1 such credit each term.

Recital Extension:
Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a "Credit/No Credit" basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of "CR." Credit derived from Recital Extension will not be counted toward degree requirements.

1. Recital Extension Fees: Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.

2. Exceptions to Recital Extension:
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.

3. Failure to Present Recital: The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

When the monograph is complete, the major advisor of the Doctoral Advisory Committee (DAC) asks the Associate Dean to appoint an outside reader. The DAC plus the outside reader constitute the Dissertation Examining Committee (DEC) for the monograph defense. Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary.

Doctoral candidates must submit a defense copy of the monograph to members of the DEC and the Associate Dean at least two weeks prior to the defense. Students should register for MUSC 9999 Monograph Research (1-6 credits) each term, Fall and Spring, until the final project has been successfully defended. Doctoral candidates are required to register for a minimum of 6 credit hours of MUSC 9999 during their program as a whole, but must register for a minimum of one such credit each term.

Incompletes:
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:
Final Recital:
Students may present the DMA Final Recital (MUSC 9984) after the preliminary examination has been completed and the DAC has been appointed.

Proposal:
After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School. Students register for MUSC 9998 during the writing of the monograph proposal and MUSC 9999 after the proposal has been officially approved. Doctoral candidates are required to register for a minimum of 6 credit hours of MUSC 9999 Monograph Research during their program as a whole and must register for a minimum of 1 such credit each term.

Monograph:
Early in the term in which a defense of the monograph is anticipated, the major advisor notifies the Associate Dean that it is time to appoint the Dissertation Examining Committee (DEC). The DEC consists of the DAC plus an "outside" reader, who is an additional graduate faculty member from Temple or another university, but not from the faculty of the student's home department.

Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary. This includes the "Announcement of Oral Defense" form, which must bear all appropriate signatures and be submitted to the Associate Dean.

Two weeks prior to the oral defense, the student submits individual copies of the abstract and the completed dissertation/monograph to the Associate Dean and each member of the DEC. The graduate secretary notifies the Graduate School and posts notices of the impending defense on bulletin boards located within the Boyer College of Music and Dance. All members of the DEC attend the oral defense and then vote to pass or fail the monograph and its defense after the conclusion of the public presentation.

Changes in membership of a DAC or a DEC must be approved by the Associate Dean. The change also must be communicated to the Graduate School.
Contacts

Department Web Address:
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

Department Information:
Dept. of Instrumental Studies
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2001 N. 13th Street
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Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Eric Schweingruber
eschwein@temple.edu
215-204-9792

Chairperson:
Professor Terell Stafford
terell.stafford@temple.edu
215-204-8036

Music Performance/French Horn, D.M.A.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program
The objective of the D.M.A. program in French Horn Performance is to foster growth and development of the highest and most sophisticated expression of musical interpretation through performance under the guidance of a very highly specialized faculty.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Accreditation: The degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Diverse areas of study are included to ensure the broadest possible cultivation and expansion of students’ talents.

Job Prospects: Graduates of the program typically find employment in professional music ensembles throughout the world, in colleges and universities, and in private teaching studios, among other employment venues.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid page of Boyer’s website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master’s students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:
Fall: November 15

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

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Master’s Degree in Discipline/Related Discipline: A degree in Music is expected.

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- Excerpts from the standard orchestral repertoire.

All works, except sonatas, should be memorized.

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<td>MUSC 9504</td>
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<tr>
<td>MUSC 9514</td>
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</tr>
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<td>MUSC 9517</td>
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</tr>
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<td>MUSC 9524</td>
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<td>Doctoral Instrumental Major</td>
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<td>Single Reed Woodwind Ped</td>
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<tr>
<td>MUSC 9684</td>
<td>DMA Lecture-Recital</td>
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<tr>
<td></td>
<td>or MUSC 9784 DMA Performance with Orchestra</td>
<td></td>
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<tr>
<td>MUSC 9701</td>
<td>Doct Perf Practice I</td>
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<tr>
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<td>or MUSC 9702 Doct Perf Practice II</td>
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</tr>
<tr>
<td>MUSC 9984</td>
<td>DMA Final Recital</td>
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<tr>
<td>MUSC 9999</td>
<td>Monograph Research</td>
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</table>
| MUST 9701 | Doctoral Seminar Analysis, Interpretation, and Performance | 3 | Electives
| Music History |                                       | 3            |
| Advanced Music                      |                                       | 3            |

Minor Area in Music 1  12

Total Credit Hours  54

1 Select from courses at the level of MUSC 8404 or higher.

Recitals:

1. Solo public recital by the conclusion of the fourth term of lessons (MUSC 9534)
2. Solo public recital (MUSC 9184) or Chamber Music Recital (MUSC 9884)
3. Lecture Recital (MUSC 9684) or Performance with Orchestra (MUSC 9784)
4. Final Doctoral Recital (MUSC 9984)

Additional Requirements:

All degree credits are to be earned at Temple University.

Written Entrance Examinations:

All doctoral students must take written entrance exams prior to or during the first term of doctoral study. Candidates who fail the entrance examinations the first time may, upon application to the Associate Dean for Graduate Studies of the Boyer College of Music and Dance, be
permitted to take the examinations a second time. A third opportunity is not allowed.

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1. Music History Exam: A general examination covering the history of music is administered. Questions relative to forms, styles, and periods of music are included. It is expected that all examinees are acquainted with the standard literature of music.

2. Harmony Exam: This exam involves completion of a harmonic excerpt in advanced chromatic idiom and the creation of a bass line with figuration (figured bass) in Baroque style.

3. Counterpoint Exam: From a given motive, approximately 20 measures of imitative counterpoint in three parts are to be completed.

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5. Literature and Pedagogy Exam: This examination focuses on the literature and pedagogy of the instrument of specialization.

6. Writing Sample: A 90-minute examination of the student’s ability to write at the doctoral level is conducted. Examination topics are of a general nature.

Diagnostic Recital:
A diagnostic recital is required and must be performed before a faculty jury at the conclusion of the first term of study. The candidate must contact her/his advisor to arrange the jury. The recital consists of a full program, approximately 45 minutes in length, and may include the performance (with music) of a new composition that is presented to the applicant for study 48 hours in advance of the jury. An analysis of repertoire and technical needs results.

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Continuous registration of at least 3 credits must be maintained each term, with the exception of Summer, from the time of acceptance into the D.M.A. program in Music Performance until the completion of all coursework.

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All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the college’s statement on plagiarism and academic honesty.

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Written Preliminary Examinations:
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For those students who pass the written preliminary examinations, no oral preliminary examination is required. (This refers only to the oral preliminary examination and does not refer in any way to the oral defense of the dissertation/monograph.)

If a student fails one or more portions of the written preliminary examination, an oral examination is administered by the major advisor and a minimum of two additional faculty members. In the case of failure in one subject area, two members of that department are asked by the student's major advisor to participate with the major advisor in the examination. In the case of failure in more than one subject area, at least one faculty member from each of the departments in which the failure occurred is asked by the student’s major advisor to participate in the examination.

The examination is to be a formal oral examination rather than an informal meeting with graduate faculty from departments in which the examination revealed that the student needs further work. This does not preclude such informal meetings, however, in preparation for the oral examination. Upon passing the oral examination, the student, as advised by the examining committee, is permitted to schedule a second and final attempt at the failed portions of the written examination.

**Final Recital and Monograph Proposal:**
After the successful completion of the written preliminary examinations, MUSC 9984 DMA Final Recital and written monograph are undertaken in consultation with the major advisor, the department chair, and the Doctoral Advisory Committee (DAC). The DAC shall be appointed by the Associate Dean to adjudicate the Final Recital and to guide the student in writing both the monograph proposal and the final document itself. When the student, in consultation with the major advisor and department chair, has identified a tentative advisory committee, the chair gives those names to the Associate Dean for consideration. The Associate Dean appoints the DAC. The DAC consists of no fewer than three persons: two faculty members from within the department, and a third person from outside the department. Members of the DAC serve as the adjudicators of the Final Recital.

After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers within 30 days one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School. Students register for MUSC 9998 during the writing of the monograph proposal and MUSC 9999 after the proposal has been officially approved. Doctoral candidates are required to register for a minimum of 6 credit hours of MUSC 9999 Monograph Research during their program as a whole and must register for a minimum of 1 such credit each term.

**Recital Extension:**
Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a "Credit/No Credit" basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of "CR." Credit derived from Recital Extension will not be counted toward degree requirements.

1. Recital Extension Fees: Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.

2. Exceptions to Recital Extension:
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.

3. Failure to Present Recital: The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

**Final Oral Examination:**
When the monograph is complete, the major advisor of the Doctoral Advisory Committee (DAC) asks the Associate Dean to appoint an outside reader. The DAC plus the outside reader constitute the Dissertation Examining Committee (DEC) for the monograph defense. Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary.

Doctoral candidates must submit a defense copy of the monograph to members of the DEC and the Associate Dean at least two weeks prior to the defense. Students should register for MUSC 9999 Monograph Research (1-6 credits) each term, Fall and Spring, until the final project has been successfully defended. Doctoral candidates are required to
register for a minimum of 6 credit hours of MUSC 9999 during their program as a whole, but must register for a minimum of one such credit each term.

_Incompletes:_
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

_Culminating Events:_

_Final Recital:_
Students may present the DMA Final Recital (MUSC 9984) after the preliminary examination has been completed and the DAC has been appointed.

_Proposal:_
After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School within 30 days.

_Monograph:_
Early in the term in which a defense of the monograph is anticipated, the major advisor notifies the Associate Dean that it is time to appoint the Dissertation Examining Committee (DEC). The DEC consists of the DAC plus an "outside" reader, who is an additional graduate faculty member from Temple or another university, but not from the faculty of the student's home department.

Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary. This includes the "Announcement of Oral Defense" form, which must bear all appropriate signatures and be submitted to the Associate Dean.

Two weeks prior to the oral defense, the student submits individual copies of the abstract and the completed dissertation/monograph to the Associate Dean and each member of the DEC. The graduate secretary notifies the Graduate School and posts notices of the impending defense on bulletin boards located within the Boyer College of Music and Dance. All members of the DEC attend the oral defense and then vote to pass or fail the monograph and its defense after the conclusion of the public presentation.

Changes in membership of a DAC or a DEC must be approved by the Associate Dean. The change also must be communicated to the Graduate School.

Contacts

_Department Web Address:_
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

_Department Information:_
Dept. of Instrumental Studies  
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance  
2001 N. 13th Street  
Philadelphia, PA 19122-6079  
eschwein@temple.edu  
215-204-5527

_Submission Address for Application Materials:_
https://apply.temple.edu/Boyer/

_Department Contacts:_

_Admisions:_
James Short  
jshort@temple.edu  
215-204-8598

_Program Coordinator:_
Eric Schweingruber  
eschwein@temple.edu  
215-204-9792

_Chairperson:_
Professor Terell Stafford  
terell.stafford@temple.edu  
215-204-8036

_Music Performance/Harp, D.M.A._

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

_About the Program:_
The objective of the D.M.A. program in Harp Performance is to foster growth and development of the highest and most sophisticated expression of musical interpretation through performance under the guidance of a very highly specialized faculty.

_Time Limit for Degree Completion:_ 7 years

_Campus Location:_ Main

_Full-Time/Part-Time Status:_ The degree program can be completed on a full- or part-time basis.

_Accreditation:_ The degree program is accredited by the National Association of Schools of Music (NASM).

_Areas of Specialization:_ Diverse areas of study are included to ensure the broadest possible cultivation and expansion of students' talents.

_Job Prospects:_ Graduates of this program typically find employment in professional music ensembles throughout the world, in colleges and universities, and in private teaching studios, among other employment venues.

_Non-Matriculated Student Policy:_ Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

_Financing Opportunities:_ Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration.
for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:

Fall: November 15

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours. Doctoral candidates must hold the Master of Music degree (or the equivalent) in the field of specialization from an accredited institution. Applicants accepted with deficiencies will find the deficiencies noted in the letter of admission. Deficiencies must be addressed prior to completion of the degree.

Master's Degree in Discipline/Related Discipline: A degree in Music is expected.

Bachelor's Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:

TOEFL: 100 iBT or 600 PBT minimum

Prescreening Video and Audition: Applicants submit a prescreening video via Acceptd (https://app.getacceptd.com/templeboyer). This recording may contain representative movements of the audition material, with the majority of the material having been recorded within the last 12 months. Video recordings of accompanied works must have piano or orchestral accompaniment.

If preliminary approval is granted, an in-person live audition is arranged. Audition repertoire requirements include:

- A sonata or solo from the Baroque period, e.g., Sonata in G Major by C.P.E. Bach.
- A major concerto, e.g., Harp Concerto by Ginastera, or Danse Sacrée et Danse Profane by Debussy.
- A sonata or major solo from the Romantic or Impressionist period, e.g., Britten's Suite for Harp in C Major, Op. 83 or Tournier's Sonatine, Op. 30.
- A representative 20th-Century work, preferably written after 1950.
- Four orchestral excerpts and/or cadenzas.

Note that video recordings alone are not acceptable for admission, except in the case of students living outside the United States. In this case, applicants must submit a video recording of complete works.


Interview: Applicants are interviewed by the department chair and Associate Dean at the time of the live audition.

Resume: Current resume required.

Writing Examination: An on-site Writing Examination is required as part of the doctoral admissions process. Remedial coursework may be required.

Advanced Standing: The D.M.A. program in Music Performance consists of 55 discrete credits taken beyond the master's degree. At the time of admission, the entire master's degree serves as advanced standing credits. These credits are not counted toward the 55 required credits of the doctoral degree. However, students may transfer into the doctoral program up to 12 additional graduate credits in coursework taken beyond the master's degree. Typically, this coursework is reviewed after admission to the D.M.A. degree and must be approved by the major advisor and the Associate Dean. The maximum number of advanced standing credits awarded is 32.

Additional Requirements: Applicants must:

1. Include with the application a repertoire list indicating works previously studied. The list should indicate which of the works were performed publicly and, if possible, where and when they were performed.
2. Show transcript evidence at the master's level in the area of bibliographical resources in music. If no transcript evidence is available, students must take MUST 8701 Research in Music in addition to the 6 required credits within the History/Theory area.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:

Number of Didactic Credits Required Beyond the Master's: 55

Required Courses:

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<tr>
<th>Code</th>
<th>Title</th>
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MUSC 9004 Doctoral String Major 3
MUSC 9011 Doctoral Chamber Music 1
MUSC 9012 Doctoral Chamber Music 1
MUSC 9014 Doctoral String Major 3
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MUSC 9034 String Major Doctorate 3
MUSC 9184 DMA Solo Public Recital 1
MUSC 9351 Performance Traditions 3
MUSC 9384 DMA Chamber Recital 1
or MUSC 9684 DMA Lecture-Recital
MUSC 9515 Technical and Interpretive Seminar-Strings 2
MUSC 9516 Seminar for String Literature 2
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Elective in Music History 3
Minor Area in Music 1 12

Total Credit Hours 55

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If a student fails one or more portions of the written preliminary examination, an oral examination is administered by the major advisor and a minimum of two additional faculty members. In the case of failure in one subject area, two members of that department are asked by the student's major advisor to participate with the major advisor in the examination. In the case of failure in more than one subject area, at least one faculty member from each of the departments in which the failure occurred is asked by the student's major advisor to participate in the examination.

The examination is to be a formal oral examination rather than an informal meeting with graduate faculty from departments in which the examination revealed that the student needs further work. This does not preclude such informal meetings, however, in preparation for the oral examination. Upon passing the oral examination, the student, as advised by the examining committee, is permitted to schedule a second and final attempt at the failed portions of the written examination.

Final Recital and Monograph Proposal:
After the successful completion of the written preliminary examinations, MUSC 9984 DMA Final Recital and written monograph are undertaken in consultation with the major advisor, the department chair, and the Doctoral Advisory Committee (DAC). The DAC shall be appointed by the Associate Dean to adjudicate the Final Recital and to guide the student in preparing both the monograph proposal and the final document itself. When the student, in consultation with the major advisor and department chair, has identified a tentative advisory committee, the chair gives those names to the Associate Dean for consideration. The Associate Dean appoints the DAC. The DAC consists of no fewer than three persons: two faculty members from within the department, and a third person from outside the department. Members of the DAC serve as the adjudicators of the Final Recital.

After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers within 30 days one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School. Students register for MUSC 9998 during the writing of the monograph proposal and MUSC 9999 after the proposal has been officially approved. Doctoral candidates are required to register for a minimum of 6 credit hours in consultation with their major advisor and department chair.
hours of MUSC 9999 Monograph Research during their program as a whole and must register for a minimum of 1 such credit each term.

**Recital Extension:**
Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a “Credit/No Credit” basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of “CR.” Credit derived from Recital Extension will not be counted toward degree requirements.

1. **Recital Extension Fees:** Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.

2. **Exceptions to Recital Extension:**
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.

3. **Failure to Present Recital:** The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

**Final Oral Examination:**
When the monograph is complete, the major advisor of the Doctoral Advisory Committee (DAC) asks the Associate Dean to appoint an outside reader. The DAC plus the outside reader constitute the Dissertation Examining Committee (DEC) for the monograph defense. Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary. Doctoral candidates must submit a defense copy of the monograph to members of the DEC and the Associate Dean at least two weeks prior to the defense. Students should register for MUSC 9999 Monograph Research (1-6 credits) each term, Fall and Spring, until the final project has been successfully defended. Doctoral candidates are required to register for a minimum of 6 credit hours of MUSC 9999 during their program as a whole, but must register for a minimum of one such credit each term.

**Incomplete:**
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

**Culminating Events:**

**Final Recital:**
Students may present the DMA Final Recital (MUSC 9984) after the preliminary examination has been completed and the DAC has been appointed.

**Proposal:**
After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School within 30 days.

**Monograph:**
Early in the term in which a defense of the monograph is anticipated, the major advisor notifies the Associate Dean that it is time to appoint the Dissertation Examining Committee (DEC). The DEC consists of the DAC plus an “outside” reader, who is an additional graduate faculty member from Temple or another university, but not from the faculty of the student’s home department.

Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary.

This includes the “Announcement of Oral Defense” form, which must bear all appropriate signatures and be submitted to the Associate Dean.

Two weeks prior to the oral defense, the student submits individual copies of the abstract and the completed dissertation/monograph to the Associate Dean and each member of the DEC. The graduate secretary notifies the Graduate School and posts notices of the impending defense on bulletin boards located within the Boyer College of Music and Dance. All members of the DEC attend the oral defense and then vote to pass or fail the monograph and its defense after the conclusion of the public presentation.

Changes in membership of a DAC or a DEC must be approved by the Associate Dean. The change also must be communicated to the Graduate School.

**Contacts**

**Department Web Address:**
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

**Department Information:**
Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
terell.stafford@temple.edu
215-204-5527

**Submission Address for Application Materials:**
https://apply.temple.edu/Boyer/

**Department Contacts:**
Admissions:
James Short
jshort@temple.edu
Music Performance/Historical Keyboard, D.M.A.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program

The objective of the D.M.A. program in Historical Keyboard Performance is to foster growth and development of the highest and most sophisticated expression of musical interpretation through performance. Under the guidance of a highly specialized faculty, students are expected to achieve the most advanced level of professional knowledge, training, and experience in the performance of solo and ensemble music on historical keyboard instruments. Studies will encompass repertoire from approximately the year 1500 up through the present.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Accreditation: The degree program has been submitted for Plan Approval by the National Association of Schools of Music (NASM).

Areas of Specialization: To thoroughly prepare for future professional performance opportunities, students learn technique and figured bass, as well as gain a working knowledge of tuning and maintenance assistance. In keeping with the historical basis of the study, 17th- and 18th-century performance practice are emphasized in all course and studio work to ensure the cultivation and expansion of students' talents.

Job Prospects: Graduates of the program will be qualified to find employment in professional music ensembles throughout the world, in colleges and universities, in private teaching studios, and as professional accompanists and coaches, among other employment venues.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/ internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/ gradassistantshipform.pdf) page of Boyer’s website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master’s students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:

Fall: November 15

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours. Doctoral candidates must hold the Master of Music degree (or the equivalent) in the field of specialization from an accredited institution. Applicants accepted with deficiencies will find the deficiencies noted in the letter of admission. Deficiencies must be addressed prior to completion of the degree.

Master’s Degree in Discipline/Related Discipline: A degree in Music is expected.

Bachelor’s Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:

TOEFL: 100 iBT or 600 PBT minimum

Prescreening Video and Audition: Applicants submit a prescreening video via Acceptd (https://app.getacceptd.com/templeboyer). This recording may contain representative movements of the audition material, with the majority of the material having been recorded within the last 12 months. Video recordings of accompanied works must have piano or orchestral accompaniment.

If preliminary approval is granted, an in-person live audition is arranged. Audition repertoire requirements include:

• Repertory representing at least three different styles, chosen from German, French, Italian, English, or Iberian works composed prior to 1800.

• Sight-read a simple basso continuo line.

Memorization is not required.

Note that video recordings alone are not acceptable for admission, except in the case of students living outside the United States. In this case, applicants must submit a video recording of complete works.

Interview: Applicants are interviewed by the department chair at the time of the live audition.

Resume: Current resume required.

Writing Examination: An on-site Writing Examination is required as part of the doctoral admissions process. Remedial coursework may be required.

Advanced Standing: The D.M.A. program in Music Performance consists of 54 discrete credits taken beyond the master's degree. At the time of admission, the entire master's degree serves as advanced standing credits. These credits are not counted toward the 54 required credits of the doctoral degree. However, students may transfer into the doctoral program up to 12 additional graduate credits in coursework taken beyond the master's degree. Typically, this coursework is reviewed after admission to the D.M.A. degree and must be approved by the major advisor and the Associate Dean. The maximum number of advanced standing credits awarded is 30.

Additional Requirements:

1. Include with the application a repertoire list indicating works previously studied. The list should indicate which of the works were performed publicly and, if possible, where and when they were performed.
2. Show transcript evidence at the master’s level in the area of bibliographical resources in music. If no transcript evidence is available, students must take MUST 8701 Research in Music in addition to the 9 required credits within the Music Studies area.
3. Show transcript evidence at the master’s level in the area of performance practices. If no transcript evidence can be presented, students must take up to 6 credits of MUSC 8477 Baroque Keyboard Performance Practice and/or MUSC 8478 Classical Keyboard Performance Practice.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College’s Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:

Number of Didactic Credits Required Beyond the Master's: 54

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 8441</td>
<td>Seminar in Early Keyboard Instruments I</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 8442</td>
<td>Seminar in Early Keyboard Instruments II</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 9011</td>
<td>Doctoral Chamber Music</td>
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</tr>
<tr>
<td>MUSC 9104</td>
<td>Historical Keyboard Instruments Major/Doctoral</td>
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<td>MUSC 9114</td>
<td>Historical Keyboard Instruments Major/Doctoral</td>
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<tr>
<td>MUSC 9124</td>
<td>Historical Keyboard Instruments Major/Doctoral</td>
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<tr>
<td>MUSC 9134</td>
<td>Historical Keyboard Instruments Major/Doctoral</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 9351</td>
<td>Performance Traditions</td>
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</tr>
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<td>MUSC 9384</td>
<td>DMA Chamber Recital</td>
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<td>MUSC 9451</td>
<td>Keyboard Literature-Doctoral</td>
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<tr>
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<td>Keyboard Literature-Doctoral</td>
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<tr>
<td>MUSC 9684</td>
<td>DMA Lecture-Recital</td>
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</tr>
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<td>MUSC 9701</td>
<td>Doct Perf Practice I</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 9784</td>
<td>DMA Performance with Orchestra</td>
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<tr>
<td>MUSC 9984</td>
<td>DMA Final Recital</td>
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</tr>
<tr>
<td>MUSC 9999</td>
<td>Monograph Research</td>
<td>6</td>
</tr>
<tr>
<td>MUST 9701</td>
<td>Doctoral Seminar Analysis, Interpretation, and Performance</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives 1

Total Credit Hours 54

1 Select from graduate courses in Music Studies (at least 6 credits), Performance Practice, Ensemble, Independent Study, or Special Topics. Advisor permission required.

Recitals:

1. Solo public recital, no later than completion of MUSC 9434, with advisor approval
2. Chamber Music Recital (MUSC 9384)
3. Lecture Recital (MUSC 9684)
4. Performance with Orchestra (MUSC 9784)
5. Final Doctoral Recital (MUSC 9984)

Additional Requirements:

All degree credits are to be earned at Temple University.

Written Entrance Examinations:

All doctoral students must take written entrance exams prior to or during the first term of doctoral study. Candidates who fail the entrance examinations the first time may, upon application to the Associate Dean for Graduate Studies of the Boyer College of Music and Dance, be permitted to take the examinations a second time. A third opportunity is not allowed.

To continue registration in the doctoral program beyond the second term of study, all portions of the examinations must be passed or the appropriate review courses (or the equivalent, as determined by the examining department) must be in progress. Students planning to take the written examinations should request a list of dates from the graduate secretary and submit a written request to the Associate Dean one month prior to the administration date.

1. Music History Exam: A general examination covering the history of music is administered. Questions relative to forms, styles, and
Performing Ensembles:

Other academic activities. Open house events; supervising performance classes; and engaging in participating in ensembles; accompanying; performing at admissions and Temple University-owned musical instruments and instructional materials; be required are conducting laboratory classes; tutoring; teaching private capacities in order to enrich their academic and musical expertise.

In addition to taking the required subjects for their degrees, all students in Professional Development Policy:

Students planning to take the written examinations should request a list of dates from the graduate secretary and submit a written request to the Associate Dean one month prior to the administration date. Students are

Diagnostic Recital:
A diagnostic recital is required and must be performed before a faculty jury at the conclusion of the first term of study. The candidate must contact her/his advisor to arrange the jury. The recital consists of a full program, approximately 45 minutes in length, and may include the performance (with music) of a new composition that is presented to the applicant for study 48 hours in advance of the jury. An analysis of repertoire and technical results results.

Continuous Registration:
Continuous registration of at least 3 credits must be maintained each term, with the exception of Summer, from the time of acceptance into the D.M.A. program in Music Performance until the completion of all coursework.

Continuation in the D.M.A. Program:
Each course or seminar requires an end-of-term final grade based on papers prepared, recitals presented, discussion, and/or examinations taken during the course of the term. Each term of private study culminates in a performance examination or jury, except during terms in which the student has presented one of the required adjudicated recitals. Screening for continuance in the program after the first term of study is conducted at adjudicated recitals, end-of-term juries, and major examinations. This ensures that only the most qualified students continue beyond the early stages of the program.

For all doctoral programs, only grades from "A" to "B-" can be applied toward degree requirements. Grades of less than "B-" cannot be counted toward the degree. If the student earns a grade of less than "B-," s/he may, with permission of the department chair and the Associate Dean, retake the term of study one additional time. The same applies to recitals.

Professional Development Policy:
In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.

Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

Independent Study Courses:
Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:
All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:
Weekly one-hour private lessons are provided for all matriculated master’s and doctoral performance majors in good standing, provided at least three additional credits of programmatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

The four terms of private lessons must be taken consecutively, with the exception of summers. Any deviation from this must have the approval of the advisor, department chair, and the Associate Dean of the Boyer College of Music and Dance. Graduate assistantships and other forms of University-sponsored financial aid do not cover private lesson and recital extension fees.

Written Preliminary Examinations:
The written preliminary examinations may be taken during the final term of coursework, but no later than in the term after completion of coursework. They are administered several times each calendar year, and span two consecutive days of six hours of examination each day. Written and performance examinations should be taken no later than the end of the fifth year to allow for the successful completion of the Final Recital and the writing of the monograph. Preliminary examinations must be successfully completed before formal work on the monograph may be undertaken and before the Final Recital may be presented.

Students planning to take the written examinations should request a list of dates from the graduate secretary and submit a written request to the Associate Dean one month prior to the administration date. Students are
then notified in writing of the specific dates and administration times of the preliminary examinations for which they have been scheduled.

The examinations consist of questions relating to the major and minor areas and to musical style; require the student to comment articulately on the style and historical significance of musical compositions; and entail the student discussing and defending the principles of performance on the basis of which s/he would undertake to perform any composition in her/his major area. The questions are prepared by faculty members within the student's major and minor subject areas. At least two graduate faculty members read each section of the written preliminary examinations. Students typically are graded "Pass" or "Fail" based on a consensus of the examination readers.

Oral Preliminary Examinations:
For those students who pass the written preliminary examinations, no oral preliminary examination is required. (This refers only to the oral preliminary examination and does not refer in any way to the oral defense of the dissertation/monograph.)

If a student fails one or more portions of the written preliminary examination, an oral examination is administered by the major advisor and a minimum of two additional faculty members. In the case of failure in one subject area, two members of that department are asked by the student's major advisor to participate with the major advisor in the examination. In the case of failure in more than one subject area, at least one faculty member from each of the departments in which the failure occurred is asked by the student's major advisor to participate in the examination.

The examination is to be a formal oral examination rather than an informal meeting with graduate faculty from departments in which the examination revealed that the student needs further work. This does not preclude such informal meetings, however, in preparation for the oral examination. Upon passing the oral examination, the student, as advised by the examining committee, is permitted to schedule a second and final attempt at the failed portions of the written examination.

Final Recital and Monograph Proposal:
After the successful completion of the written preliminary examinations, MUSC 9994 DMA Final Recital and written monograph are undertaken in consultation with the major advisor, the department chair, and the Doctoral Advisory Committee (DAC). The DAC shall be appointed by the Associate Dean to adjudicate the Final Recital and to guide the student in writing both the monograph proposal and the final document itself. When the student, in consultation with the major advisor and department chair, has identified a tentative advisory committee, the chair gives those names to the Associate Dean for consideration. The Associate Dean appoints the DAC. The DAC consists of no fewer than three persons: two faculty members from within the department, and a third person from outside the department. Members of the DAC serve as the adjudicators of the Final Recital.

After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers within 30 days one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School. Students register for MUSC 9998 during the writing of the monograph proposal and MUSC 9999 after the proposal has been officially approved. Doctoral candidates are required to register for a minimum of 6 credit hours of MUSC 9999 Monograph Research during their program as a whole and must register for a minimum of 1 such credit each term.

Recital Extension:
Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a "Credit/No Credit" basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of "CR." Credit derived from Recital Extension will not be counted toward degree requirements.

1. Recital Extension Fees: Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.

2. Exceptions to Recital Extension:
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.

3. Failure to Present Recital: The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

Final Oral Examination:
When the monograph is complete, the major advisor of the Doctoral Advisory Committee (DAC) asks the Associate Dean to appoint an outside reader. The DAC plus the outside reader constitute the Dissertation Examining Committee (DEC) for the monograph defense. Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary.

Doctoral candidates must submit a defense copy of the monograph to members of the DEC and the Associate Dean at least two weeks prior to the defense. Students should register for MUSC 9999 Monograph Research (1-6 credits) each term, Fall and Spring, until the final project has been successfully defended. Doctoral candidates are required to register for a minimum of 6 credit hours of MUSC 9999 during their program as a whole, but must register for a minimum of one such credit each term.

Incomplete:
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:
Final Recital:
Students may present the DMA Final Recital (MUSC 9984) after the preliminary examination has been completed and the DAC has been appointed.

**Proposal:**
After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School within 30 days.

**Monograph:**
Early in the term in which a defense of the monograph is anticipated, the major advisor notifies the Associate Dean that it is time to appoint the Dissertation Examining Committee (DEC). The DEC consists of the DAC plus an “outside” reader, who is an additional graduate faculty member from Temple or another university, but not from the faculty of the student’s home department.

Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary. This includes the “Announcement of Oral Defense” form, which must bear all appropriate signatures and be submitted to the Associate Dean.

Two weeks prior to the oral defense, the student submits individual copies of the abstract and the completed dissertation/monograph to the Associate Dean and each member of the DEC. The graduate secretary notifies the Graduate School and posts notices of the impending defense on bulletin boards located within the Boyer College of Music and Dance. All members of the DEC attend the oral defense and then vote to pass or fail the monograph and its defense after the conclusion of the public presentation.

Changes in membership of a DAC or a DEC must be approved by the Associate Dean. The change also must be communicated to the Graduate School.

**Contacts**

**Department Web Address:**
http://www.temple.edu/boyer/academicprograms/keyboard-studies/

**Department Information:**
Dept. of Keyboard Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
charles.abramovic@temple.edu
215-204-5527

**Submission Address for Application Materials:**
https://apply.temple.edu/Boyer/

**Department Contacts:**

**Admissions:**
James Short
jshort@temple.edu

**Music Performance/Oboe, D.M.A.**

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

**About the Program**
The objective of the D.M.A. program in Oboe Performance is to foster growth and development of the highest and most sophisticated expression of musical interpretation through performance under the guidance of a very highly specialized faculty.

**Time Limit for Degree Completion:** 7 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The degree program can be completed on a full- or part-time basis.

**Accreditation:** The degree program is accredited by the National Association of Schools of Music (NASM).

**Areas of Specialization:** Diverse areas of study are included to ensure the broadest possible cultivation and expansion of students’ talents.

**Job Prospects:** Graduates of the program typically find employment in professional music ensembles throughout the world, in colleges and universities, and in private teaching studios, among other employment venues.

**Non-Matriculated Student Policy:** Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

**Financing Opportunities:** Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer’s website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master’s students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.
Admission Requirements and Deadlines

Application Deadline:

Fall: November 15
APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2
From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours. Doctoral candidates must hold the Master of Music degree (or the equivalent) in the field of specialization from an accredited institution. Applicants accepted with deficiencies will find the deficiencies noted in the letter of admission. Deficiencies must be addressed prior to completion of the degree.

Master's Degree in Discipline/Related Discipline: A degree in Music is expected.

Bachelor's Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:

TOEFL: 100 iBT or 600 PBT minimum

Prescreening Video and Audition: Applicants submit a prescreening video via Acceptd (https://app.getacceptd.com/templeboyer). This recording may contain representative movements of the audition material, with the majority of the material having been recorded within the last 12 months. Video recordings of accompanied works must have piano or orchestral accompaniment.

If preliminary approval is granted, an in-person live audition is arranged. Audition repertoire requirements include:

- A concerto, sonata, or solo piece from the Classical, Romantic, or Impressionistic period.
- A concerto, sonata, or solo piece from the 20th Century.
- Excerpts from the standard orchestral repertoire.

All works, except sonatas, should be memorized. Applicants must arrange for an accompanist for the live audition.

Note that video recordings alone are not acceptable for admission, except in the case of students living outside the United States. In this case, applicants must submit a video recording of complete works.


Interview: Applicants are interviewed by the department chair and Associate Dean at the time of the live audition.

Resume: Current resume required.

Writing Examination: An on-site Writing Examination is required as part of the doctoral admissions process. Remedial coursework may be required.

Advanced Standing: The D.M.A. program in Music Performance consists of 55 discrete credits taken beyond the master's degree. At the time of admission, the entire master's degree serves as advanced standing credits. These credits are not counted toward the 55 required credits of the doctoral degree. However, students may transfer into the doctoral program up to 12 additional graduate credits in coursework taken beyond the master's degree. Typically, this coursework is reviewed after admission to the D.M.A. degree and must be approved by the major advisor and the Associate Dean. The maximum number of advanced standing credits awarded is 30.

Additional Requirements: Applicants must:

1. Include with the application a repertoire list indicating works previously studied. The list should indicate which of the works were performed publicly and, if possible, where and when they were performed.
2. Show transcript evidence at the master's level in the area of bibliographical resources in music. If no transcript evidence is available, students must take MUST 8701 Research in Music in addition to the 6 required credits within the History/Theory area.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:

Number of Didactic Credits Required Beyond the Master's: 54

Required Courses:

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<td>DMA Solo Public Recital</td>
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<td>DMA Major Opera Role</td>
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</tr>
<tr>
<td>MUSC 9351</td>
<td>Performance Traditions</td>
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<td>MUSC 9504</td>
<td>Doctoral Instrumental Major</td>
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<td>Doctoral Instrumental Major</td>
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<td>MUSC 9524</td>
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Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:
All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:
Weekly one-hour private lessons are provided for all matriculated master's and doctoral performance majors in good standing, provided at least three additional credits of programmatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

The four terms of private lessons must be taken consecutively, with the exception of summers. Any deviation from this must have the approval of the advisor, department chair, and the Associate Dean of the Boyer College of Music and Dance. Graduate assistantships and other forms of University-sponsored financial aid do not cover private lesson and recital extension fees.

Written Preliminary Examinations:
The written preliminary examinations may be taken during the final term of coursework, but no later than in the term after completion of coursework. They are administered several times each calendar year, and span two consecutive days of six hours of examination each day. Written and performance examinations should be taken no later than the end of the fifth year to allow for the successful completion of the Final Recital and the writing of the monograph. Preliminary examinations must be successfully completed before formal work on the monograph may be undertaken and before the Final Recital may be presented.

Students planning to take the written examinations should request a list of dates from the graduate secretary and submit a written request to the Associate Dean one month prior to the administration date. Students are then notified in writing of the specific dates and administration times of the preliminary examinations for which they have been scheduled.

The examinations consist of questions relating to the major and minor areas and to musical style; require the student to comment articulately on the style and historical significance of musical compositions; and entail the student discussing and defending the principles of performance on the basis of which s/he would undertake to perform any composition in her/his major area. The questions are prepared by faculty members within the student's major and minor subject areas. At least two graduate faculty members read each section of the written preliminary examinations. Students typically are graded "Pass" or "Fail" based on a consensus of the examination readers.

Oral Preliminary Examinations:
For those students who pass the written preliminary examinations, no oral preliminary examination is required. (This refers only to the oral preliminary examination and does not refer in any way to the oral defense of the dissertation/monograph.)

If a student fails one or more portions of the written preliminary examination, an oral examination is administered by the major advisor and a minimum of two additional faculty members. In the case of failure in one subject area, two members of that department are asked by the student's major advisor to participate with the major advisor in the examination. In the case of failure in more than one subject area, at least one faculty member from each of the departments in which the failure occurred is asked by the student's major advisor to participate in the examination.

The examination is to be a formal oral examination rather than an informal meeting with graduate faculty from departments in which the examination revealed that the student needs further work. This does not preclude such informal meetings, however, in preparation for the oral examination. Upon passing the oral examination, the student, as advised by the examining committee, is permitted to schedule a second and final attempt at the failed portions of the written examination.

Final Recital and Monograph Proposal:
After the successful completion of the written preliminary examinations, MUSC 9984 DMA Final Recital and written monograph are undertaken in consultation with the major advisor, the department chair, and the Doctoral Advisory Committee (DAC). The DAC shall be appointed by the Associate Dean to adjudicate the Final Recital and to guide the student in writing both the monograph proposal and the final document itself. When the student, in consultation with the major advisor and department chair, has identified a tentative advisory committee, the chair gives those names to the Associate Dean for consideration. The Associate Dean appoints the DAC. The DAC consists of no fewer than three persons: two faculty members from within the department, and a third person from outside the department. Members of the DAC serve as the adjudicators of the Final Recital.

After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers within 30 days one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School. Students register for MUSC 9998 during the writing of the monograph proposal and MUSC 9999 after the proposal has been officially approved. Doctoral candidates are required to register for a minimum of 6 credit hours of MUSC 9999 Monograph Research during their program as a whole and must register for a minimum of 1 such credit each term.

Recital Extension:
Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a "Credit/No Credit" basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of "CR." Credit derived from Recital Extension will not be counted toward degree requirements.
1. Recital Extension Fees: Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.

2. Exceptions to Recital Extension:
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.

3. Failure to Present Recital: The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

Final Oral Examination:
When the monograph is complete, the major advisor of the Doctoral Advisory Committee (DAC) asks the Associate Dean to appoint an outside reader. The DAC plus the outside reader constitute the Dissertation Examining Committee (DEC) for the monograph defense. Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary.

Two weeks prior to the oral defense, the student submits individual copies of the abstract and the completed dissertation/monograph to the Associate Dean and each member of the DEC. The graduate secretary notifies the Graduate School and posts notices of the impending defense on bulletin boards located within the Boyer College of Music and Dance. All members of the DEC attend the oral defense and then vote to pass or fail the monograph and its defense after the conclusion of the public presentation.

Changes in membership of a DAC or a DEC must be approved by the Associate Dean. The change also must be communicated to the Graduate School.

Contacts
Department Web Address:
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

Department Information:
Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
eschwein@temple.edu
215-204-5527

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Eric Schweingruber
eschwein@temple.edu
215-204-9792

Chairperson:
Professor Terell Stafford
terell.stafford@temple.edu
215-204-8036
Music Performance/Percussion, D.M.A.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program

The objective of the D.M.A. program in Percussion Performance is to foster growth and development of the highest and most sophisticated expression of musical interpretation through performance under the guidance of a very highly specialized faculty. 

Time Limit for Degree Completion: 7 years

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Accreditation: The degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Diverse areas of study are included to ensure the broadest possible cultivation and expansion of students’ talents.

Job Prospects: Graduates of the program typically find employment in professional music ensembles throughout the world, in colleges and universities, and in private teaching studios, among other employment venues.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

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Admission Requirements and Deadlines

Application Deadline:
Fall: November 15

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

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Master's Degree in Discipline/Related Discipline: A degree in Music is expected.

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TOEFL: 100 iBT or 600 PBT minimum

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If preliminary approval is granted, an in-person live audition is arranged.

All works, except sonatas, should be memorized. Applicants must arrange for an accompanist for the live audition.


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Resume: Current resume required.

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Additional Requirements: Applicants must:

1. Include with the application a repertoire list indicating works previously studied. The list should indicate which of the works were performed publicly and, if possible, where and when they were performed.
2. Show transcript evidence at the master’s level in the area of bibliographical resources in music. If no transcript evidence is available, students must take MUST 8701 Research in Music in addition to the 6 required credits within the History/Theory area.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College’s Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:
Number of Didactic Credits Required Beyond the Master’s: 54

Required Courses:

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<td>MUSC 9684</td>
<td>DMA Lecture-Recital or MUSC 9784 DMA Performance with Orchestra</td>
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<td>or MUSC 9702 Dt Perf Practice II</td>
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<td>MUSC 9984</td>
<td>DMA Final Recital</td>
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<td>MUSC 9999</td>
<td>Monograph Research</td>
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<tr>
<td>MUST 9701</td>
<td>Doctoral Seminar Analysis, Interpretation, and Performance</td>
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Electives

Music History                                      3
Advanced Music                                     3

Minor Area in Music 1                                12

Total Credit Hours 54

1 Select from courses at the level of MUSC 8404 or higher.

Recitals:

1. Solo public recital by the conclusion of the fourth term of lessons (MUSC 9534)
2. Solo public recital (MUSC 9184) or Chamber Music Recital (MUSC 9884)
3. Lecture Recital (MUSC 9684) or Performance with Orchestra (MUSC 9784)
4. Final Doctoral Recital (MUSC 9984)

Additional Requirements:

All degree credits are to be earned at Temple University.

Written Entrance Examinations:

All doctoral students must take written entrance exams prior to or during the first term of doctoral study. Candidates who fail the entrance examinations the first time may, upon application to the Associate Dean for Graduate Studies of the Boyer College of Music and Dance, be permitted to take the examinations a second time. A third opportunity is not allowed.

To continue registration in the doctoral program beyond the second term of study, all portions of the examinations must be passed or the appropriate review courses (or the equivalent, as determined by the examining department) must be in progress. Students planning to take the written examinations should request a list of dates from the graduate secretary and submit a written request to the Associate Dean one month prior to the administration date.

1. Music History Exam: A general examination covering the history of music is administered. Questions relative to forms, styles, and periods of music are included. It is expected that all examinees are acquainted with the standard literature of music.
2. Harmony Exam: This exam involves completion of a harmonic excerpt in advanced chromatic idiom and the creation of a bass line with figuration (figured bass) in Baroque style.
3. Counterpoint Exam: From a given motive, approximately 20 measures of imitative counterpoint in three parts are to be completed.
4. Form and Analysis Exam: A score is provided at the examination that requires analysis of specified passages.
5. Literature and Pedagogy Exam: This examination focuses on the literature and pedagogy of the instrument of specialization.
6. Writing Sample: A 90-minute examination of the student’s ability to write at the doctoral level is conducted. Examination topics are of a general nature.

Diagnostic Recital:

A diagnostic recital is required and must be performed before a faculty jury at the conclusion of the first term of study. The candidate must contact her/his advisor to arrange the jury. The recital consists of a full program, approximately 45 minutes in length, and may include the performance (with music) of a new composition that is presented to the applicant for study 48 hours in advance of the jury. An analysis of repertoire and technical needs results.

Continuous Registration:

Continuous registration of at least 3 credits must be maintained each term, with the exception of Summer, from the time of acceptance into the D.M.A. program in Music Performance until the completion of all coursework.

Continuation in the D.M.A. Program:
Each course or seminar requires an end-of-term final grade based on papers prepared, recitals presented, discussion, and/or examinations taken during the course of the term. Each term of private study culminates in a performance examination or jury, except during terms in which the student has presented one of the required adjudicated recitals. Screening for continuance in the program after the first term of study is conducted at adjudicated recitals, end-of-term juries, and major examinations. This ensures that only the most qualified students continue beyond the early stages of the program.

For all doctoral programs, only grades from “A” to “B-” can be applied toward degree requirements. Grades of less than “B-” cannot be counted toward the degree. If the student earns a grade of less than “B-,” s/he may, with permission of the department chair and the Associate Dean, retake the term of study one additional time. The same applies to recitals.

Professional Development Policy:
In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:
1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.
2. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

Independent Study Courses:
Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students’ major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student’s curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:
All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:
Weekly one-hour private lessons are provided for all matriculated master’s and doctoral performance majors in good standing, provided at least three additional credits of programmatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

The four terms of private lessons must be taken consecutively, with the exception of summers. Any deviation from this must have the approval of the advisor, department chair, and the Associate Dean of the Boyer College of Music and Dance. Graduate assistantships and other forms of University-sponsored financial aid do not cover private lesson and recital extension fees.

Written Preliminary Examinations:
The written preliminary examinations may be taken during the final term of coursework, but no later than in the term after completion of coursework. They are administered several times each calendar year, and span two consecutive days of six hours of examination each day. Written and performance examinations should be taken no later than the end of the fifth year to allow for the successful completion of the Final Recital and the writing of the monograph. Preliminary examinations must be successfully completed before formal work on the monograph may be undertaken and before the Final Recital may be presented.

Students planning to take the written examinations should request a list of dates from the graduate secretary and submit a written request to the Associate Dean one month prior to the administration date. Students are then notified in writing of the specific dates and administration times of the preliminary examinations for which they have been scheduled.

The examinations consist of questions relating to the major and minor areas and to musical style; require the student to comment articulately on the style and historical significance of musical compositions; and entail the student discussing and defending the principles of performance on the basis of which s/he would undertake to perform any composition in her/his major area. The questions are prepared by faculty members within the student's major and minor subject areas. At least two graduate faculty members read each section of the written preliminary examinations. Students typically are graded “Pass” or “Fail” based on a consensus of the examination readers.

Oral Preliminary Examinations:
For those students who pass the written preliminary examinations, no oral preliminary examination is required. (This refers only to the oral preliminary examination and does not refer in any way to the oral defense of the dissertation/monograph.)

If a student fails one or more portions of the written preliminary examination, an oral examination is administered by the major advisor and a minimum of two additional faculty members. In the case of failure in one subject area, two members of that department are asked by the student’s major advisor to participate with the major advisor in the examination. In the case of failure in more than one subject area, at least one faculty member from each of the departments in which the failure occurred is asked by the student's major advisor to participate in the examination.

The examination is to be a formal oral examination rather than an informal meeting with graduate faculty from departments in which the
examination revealed that the student needs further work. This does not preclude such informal meetings, however, in preparation for the oral examination. Upon passing the oral examination, the student, as advised by the examining committee, is permitted to schedule a second and final attempt at the failed portions of the written examination.

**Final Recital and Monograph Proposal:**
After the successful completion of the written preliminary examinations, MUSC 9984 DMA Final Recital and written monograph are undertaken in consultation with the major advisor, the department chair, and the Doctoral Advisory Committee (DAC). The DAC shall be appointed by the Associate Dean to adjudicate the Final Recital and to guide the student in writing both the monograph proposal and the final document itself. When the student, in consultation with the major advisor and department chair, has identified a tentative advisory committee, the chair gives those names to the Associate Dean for consideration. The Associate Dean appoints the DAC. The DAC consists of no fewer than three persons: two faculty members from within the department, and a third person from outside the department. Members of the DAC serve as the adjudicators of the Final Recital.

After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers within 30 days one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School. Students register for MUSC 9998 during the writing of the monograph proposal and MUSC 9999 after the proposal has been officially approved. Doctoral candidates are required to register for a minimum of 6 credit hours of MUSC 9999 Monograph Research during their program as a whole and must register for a minimum of 1 such credit each term.

**Recital Extension:**
Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a “Credit/No Credit” basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of “CR.” Credit derived from Recital Extension will not be counted toward degree requirements.

1. **Recital Extension Fees:** Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.

2. **Exceptions to Recital Extension:**
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.

3. **Failure to Present Recital:** The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

**Final Oral Examination:**
When the monograph is complete, the major advisor of the Doctoral Advisory Committee (DAC) asks the Associate Dean to appoint an outside reader. The DAC plus the outside reader constitute the Dissertation Examining Committee (DEC) for the monograph defense. Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary.

Doctoral candidates must submit a defense copy of the monograph to members of the DEC and the Associate Dean at least two weeks prior to the defense. Students should register for MUSC 9999 Monograph Research (1-6 credits) each term, Fall and Spring, until the final project has been successfully defended. Doctoral candidates are required to register for a minimum of 6 credit hours of MUSC 9999 during their program as a whole, but must register for a minimum of one such credit each term.

**Incompletes:**
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

**Culminating Events:**

**Final Recital:**
Students may present the DMA Final Recital (MUSC 9994) after the preliminary examination has been completed and the DAC has been appointed.

**Proposal:**
After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School. When the monograph is complete, the major advisor of the Doctoral Examining Committee (DEC) notifies the Graduate School and posts notices of the impending defense on bulletin boards located within the Boyer College of Music and Dance. All members of the DEC attend the oral defense and then vote to pass or fail the monograph and its defense after the conclusion of the public presentation.
Changes in membership of a DAC or a DEC must be approved by the Associate Dean. The change also must be communicated to the Graduate School.

Contacts

Department Web Address:
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

Department Information:
Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
eschwein@temple.edu
215-204-5527

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Eric Schweingruber
eschwein@temple.edu
215-204-9792

Chairperson:
Professor Terell Stafford
terell.stafford@temple.edu
215-204-8036

Music Performance/Piano, D.M.A.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program

The objective of the D.M.A. program in Piano Performance is to foster growth and development of the highest and most sophisticated expression of musical interpretation through performance under the guidance of a very highly specialized faculty.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Accreditation: The degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Diverse areas of study are included to ensure the broadest possible cultivation and expansion of students’ talents.

Job Prospects: Graduates of the program typically find employment in professional music ensembles throughout the world, in colleges and universities, in private teaching studios, and as professional accompanists and coaches, among other employment venues.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:
Fall: November 15

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours. Doctoral candidates must hold the Master of Music degree (or the equivalent) in the field of specialization from an accredited institution. Applicants accepted with deficiencies will find the deficiencies noted in the letter of admission. Deficiencies must be addressed prior to completion of the degree.

Master's Degree in Discipline/Related Discipline: A degree in Music is expected.

Bachelor's Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:
TOEFL: 100 iBT or 600 PBT minimum

Prescreening Video and Audition: Applicants submit a prescreening video via Acceptd (https://app.getacceptd.com/templeboyer). This
recording may contain representative movements of the audition material, with the majority of the material having been recorded within the last 12 months. Video recordings of accompanied works must have piano or orchestral accompaniment.

If preliminary approval is granted, an in-person live audition is arranged. Audition repertoire requirements include:

- A major work from each of the Baroque, Classical, Romantic, and Impressionistic periods.
- A representative 20th-Century work, e.g., Barber, Bartok, Copland, Hindemith, Prokofiev, and the like.

All works should be memorized.

Note that video recordings alone are not acceptable for admission, except in the case of students living outside the United States. In this case, applicants must submit a video recording of complete works.

**Scholarly Paper:** Applicants must upload a scholarly paper to Acceptd (https://app.getacceptd.com/templeboyer).

**Interview:** Applicants are interviewed by the department chair and Associate Dean at the time of the live audition.

**Resume:** Current resume required.

**Writing Examination:** An on-site Writing Examination is required as part of the doctoral admissions process. Remedial coursework may be required.

**Advanced Standing:** The D.M.A. program in Music Performance consists of 54 discrete credits taken beyond the master's degree. At the time of admission, the entire master's degree serves as advanced standing credits. These credits are not counted toward the 54 required credits of the doctoral degree. However, students may transfer into the doctoral program up to 12 additional graduate credits in coursework taken beyond the master's degree. Typically, this coursework is reviewed after admission to the D.M.A. degree and must be approved by the major advisor and the Associate Dean. The maximum number of advanced standing credits awarded is 30.

**Additional Requirements:**

1. Include with the application a repertoire list indicating works previously studied. The list should indicate which of the works were performed publicly and, if possible, where and when they were performed.
2. Show transcript evidence at the master’s level in the area of bibliographical resources in music. If no transcript evidence is available, students must take MUST 8701 Research in Music in addition to the 6 required credits within the History/Theory area.
3. Show transcript evidence at the master’s level in the area of performance practices. If no transcript evidence can be presented, students must take up to 6 credits of MUSC 8477 Baroque Keyboard Performance Practice and/or MUSC 8478 Classical Keyboard Performance Practice.

**Other:** Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College’s Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

**Program Requirements**

**General Program Requirements:**

*Number of Didactic Credits Required Beyond the Master's: 54*

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 9011</td>
<td>Doctoral Chamber Music</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 9351</td>
<td>Performance Traditions</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 9384</td>
<td>DMA Chamber Recital</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 9404</td>
<td>Piano Major/Doctoral</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 9414</td>
<td>Piano Major/Doctoral</td>
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<td>Piano Major/Doctoral</td>
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</tr>
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<td>MUSC 9434</td>
<td>Piano Major Doctorate</td>
<td>3</td>
</tr>
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<td>MUSC 9451</td>
<td>Keyboard Literature-Doctoral</td>
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</tr>
<tr>
<td>MUSC 9452</td>
<td>Keyboard Literature-Doctoral</td>
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</tr>
<tr>
<td>MUSC 9684</td>
<td>DMA Lecture-Recital</td>
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</tr>
<tr>
<td>MUSC 9784</td>
<td>DMA Performance with Orchestra</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 9984</td>
<td>DMA Final Recital</td>
<td>1</td>
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<tr>
<td>MUSC 9999</td>
<td>Monograph Research</td>
<td>6</td>
</tr>
<tr>
<td>MUST 9701</td>
<td>Doctoral Seminar Analysis, Interpretation, and Performance</td>
<td>3</td>
</tr>
</tbody>
</table>

**Electives**

1. Select from Music Studies (at least 5 credits), Applied Early Keyboard lessons, Composition (with permission from that department), Performance Practice, Piano Pedagogy, or up to 6 credits taken in approved Temple University graduate coursework outside the Boyer College of Music and Dance. The chair of the Department of Keyboard Studies must approve all elective courses.

**Recitals:**

1. Solo public recital, no later than completion of MUSC 9434, with advisor approval
2. Chamber Music Recital (MUSC 9384)
3. Lecture Recital (MUSC 9684)
4. Performance with Orchestra (MUSC 9784)
5. Final Doctoral Recital (MUSC 9984)

**Additional Requirements:**

All degree credits are to be earned at Temple University.

**Written Entrance Examinations:**

All doctoral students must take written entrance exams prior to or during the first term of doctoral study. Candidates who fail the entrance
examinations the first time may, upon application to the Associate Dean for Graduate Studies of the Boyer College of Music and Dance, be permitted to take the examinations a second time. A third opportunity is not allowed.

To continue registration in the doctoral program beyond the second term of study, all portions of the examinations must be passed or the appropriate review courses (or the equivalent, as determined by the examining department) must be in progress. Students planning to take the written examinations should request a list of dates from the graduate secretary and submit a written request to the Associate Dean one month prior to the administration date.

1. Music History Exam: A general examination covering the history of music is administered. Questions relative to forms, styles, and periods of music are included. It is expected that all examinees are acquainted with the standard literature of music.

2. Harmony Exam: This exam involves completion of a harmonic excerpt in advanced chromatic idiom and the creation of a bass line with figuration (figured bass) in Baroque style.

3. Counterpoint Exam: From a given motive, approximately 20 measures of imitative counterpoint in three parts are to be completed.

4. Form and Analysis Exam: A score is provided at the examination that requires analysis of specified passages.

5. Literature and Pedagogy Exam: This examination focuses on the literature and pedagogy of the instrument of specialization.

6. Writing Sample: A 90-minute examination of the student's ability to write at the doctoral level is conducted. Examination topics are of a general nature.

**Diagnostic Recital:**
A diagnostic recital is required and must be performed before a faculty jury at the conclusion of the first term of study. The candidate must contact her/his advisor to arrange the jury. The recital consists of a full program, approximately 45 minutes in length, and may include the performance (with music) of a new composition that is presented to the applicant for study 48 hours in advance of the jury. An analysis of repertoire and technical needs results.

**Continuous Registration:**
Continuous registration of at least 3 credits must be maintained each term, with the exception of Summer, from the time of acceptance into the D.M.A. program in Music Performance until the completion of all coursework.

**Continuation in the D.M.A. Program:**
Each course or seminar requires an end-of-term final grade based on papers prepared, recitals presented, discussion, and/or examinations taken during the course of the term. Each term of private study culminates in a performance examination or jury, except during terms in which the student has presented one of the required adjudicated recitals. Screening for continuance in the program after the first term of study is conducted at adjudicated recitals, end-of-the-term juries, and major examinations. This ensures that only the most qualified students continue beyond the early stages of the program.

For all doctoral programs, only grades from "A" to "B-" can be applied toward degree requirements. Grades of less than "B-" cannot be counted toward the degree. If the student earns a grade of less than "B-" s/he may, with permission of the department chair and the Associate Dean, retake the term of study one additional time. The same applies to recitals.

**Professional Development Policy:**

In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

**Performing Ensembles:**

1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.

2. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

**Independent Study Courses:**
Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

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All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

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The written preliminary examinations may be taken during the final term of coursework, but no later than in the term after completion of coursework. They are administered several times each calendar year, and span two consecutive days of six hours of examination each day. Written and performance examinations should be taken no later than the end of the fifth year to allow for the successful completion of the Final Recital and the writing of the monograph. Preliminary examinations must be successfully completed before formal work on the monograph may be undertaken and before the Final Recital may be presented.

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After the successful completion of the written preliminary examinations, MUSC 9984 DMA Final Recital and written monograph are undertaken in consultation with the major advisor, the department chair, and the Doctoral Advisory Committee (DAC). The DAC shall be appointed by the Associate Dean to adjudicate the Final Recital and to guide the student in writing both the monograph proposal and the final document itself. When the student, in consultation with the major advisor and department chair, has identified a tentative advisory committee, the chair gives those names to the Associate Dean for consideration. The Associate Dean appoints the DAC. The DAC consists of no fewer than three persons: two faculty members from within the department, and a third person from outside the department. Members of the DAC serve as the adjudicators of the Final Recital.

After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers within 30 days one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School. Students register for MUSC 9998 during the writing of the monograph proposal and MUSC 9999 after the proposal has been officially approved. Doctoral candidates are required to register for a minimum of 6 credit hours of MUSC 9999 Monograph Research during their program as a whole and must register for a minimum of 1 such credit each term.

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   b. Students who register for Recital Extension during the Summer term may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.

3. Failure to Present Recital: The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

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When the monograph is complete, the major advisor of the Doctoral Advisory Committee (DAC) asks the Associate Dean to appoint an outside reader. The DAC plus the outside reader constitute the Dissertation Examining Committee (DEC) for the monograph defense. Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary.

Doctoral candidates must submit a defense copy of the monograph to members of the DEC and the Associate Dean at least two weeks prior to the defense. Students should register for MUSC 9999 Monograph Research (1-6 credits) each term, Fall and Spring, until the final project
has been successfully defended. Doctoral candidates are required to register for a minimum of 6 credit hours of MUSC 9999 during their program as a whole, but must register for a minimum of one such credit each term.

Incompletes:
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:
Final Recital:
Students may present the DMA Final Recital (MUSC 9984) after the preliminary examination has been completed and the DAC has been appointed.

Proposal:
After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School within 30 days.

Monograph:
Early in the term in which a defense of the monograph is anticipated, the major advisor notifies the Associate Dean that it is time to appoint the Dissertation Examining Committee (DEC). The DEC consists of the DAC plus an “outside” reader, who is an additional graduate faculty member from Temple or another university, but not from the faculty of the student’s home department.

Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary. This includes the “Announcement of Oral Defense” form, which must bear all appropriate signatures and be submitted to the Associate Dean.

Two weeks prior to the oral defense, the student submits individual copies of the abstract and the completed dissertation/monograph to the Associate Dean and each member of the DEC. The graduate secretary notifies the Graduate School and posts notices of the impending defense on bulletin boards located within the Boyer College of Music and Dance. All members of the DEC attend the oral defense and then vote to pass or fail the monograph and its defense after the conclusion of the public presentation.

Changes in membership of a DAC or a DEC must be approved by the Associate Dean. The change also must be communicated to the Graduate School.

Contacts
Department Web Address:
http://www.temple.edu/boyer/academicprograms/keyboard-studies/

Department Information:
Dept. of Keyboard Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
charles.abramovic@temple.edu

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

D.M.A. in Performance Program Coordinator:
Dr. Charles Abramovic
charles.abramovic@temple.edu
215-204-7388

Chairperson:
Dr. Charles Abramovic
charles.abramovic@temple.edu
215-204-7388

Music Performance/Trombone, D.M.A.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program
The objective of the D.M.A. program in Trombone Performance is to foster growth and development of the highest and most sophisticated expression of musical interpretation through performance under the guidance of a very highly specialized faculty.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Accreditation: The degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Diverse areas of study are included to ensure the broadest possible cultivation and expansion of students' talents.

Job Prospects: Graduates of the program typically find employment in professional music ensembles throughout the world, in colleges and universities, and in private teaching studios, among other employment venues.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom
assistance, research, artistic performance, and/or direct service related
to academic programs. Applicants must submit an assistantship/
internship application by March 1 to obtain priority consideration
for an award. Applications are available online at the Graduate
Financial Aid (http://www.temple.edu/boyer/admissions/documents/
gradassistantshipform.pdf) page of Boyer’s website. Typically these
awards are made only in the Fall term for up to two terms: Fall and
Spring. Awards may be renewed on an annual basis (typically up to one
additional year for master’s students and up to three years for doctoral
students) based on departmental needs as well as satisfactory academic
and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:

Fall: November 15

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained from
evaluators who can provide insight into the applicant’s abilities, talents,
and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants
must present credentials that are the equivalent of the appropriate
Bachelor of Music degree at Temple University, which is based on a
curriculum of 124 to 135 hours. Doctoral candidates must hold the Master
of Music degree (or the equivalent) in the field of specialization from
an accredited institution. Applicants accepted with deficiencies will find
the deficiencies noted in the letter of admission. Deficiencies must be
addressed prior to completion of the degree.

Master’s Degree in Discipline/Related Discipline: A degree in Music is
expected.

Bachelor’s Degree in Discipline/Related Discipline: A degree in Music
is expected.

Statement of Goals: Include your special interests within the discipline
and expectations for the program.

Standardized Test Scores:

TOEFL: 100 iBT or 600 PBT minimum

Prescreening Video and Audition: Applicants submit a prescreening
video via Acceptd (https://app.getacceptd.com/templeboyer). This
recording may contain representative movements of the audition material,
with the majority of the material having been recorded within the last 12
months. Video recordings of accompanied works must have piano or
orchestral accompaniment.

If preliminary approval is granted, an in-person live audition is arranged.
Audition repertoire requirements include:

• A concerto, sonata, or solo piece from the Classical, Romantic, or
  Impressionistic period.

• A concerto, sonata, or solo piece from the 20th Century.

• Excerpts from the standard orchestral repertoire.

All works, except sonatas, should be memorized.

Note that video recordings alone are not acceptable for admission,
except in the case of students living outside the United States. In this
case, applicants must submit a video recording of complete works.

Scholarly Paper: Applicants must upload a scholarly paper to Acceptd

Interview: Applicants are interviewed by the department chair and
Associate Dean at the time of the live audition.

Resume: Current resume required.

Writing Examination: An on-site Writing Examination is required as
part of the doctoral admissions process. Remedial coursework may be
required.

Advanced Standing: The D.M.A. program in Music Performance
consists of 55 discrete credits taken beyond the master’s degree. At
the time of admission, the entire master’s degree serves as advanced
standing credits. These credits are not counted toward the 55 required
credits of the doctoral degree. However, students may transfer into the
doctoral program up to 12 additional graduate credits in coursework
taken beyond the master’s degree. Typically, this coursework is reviewed
after admission to the D.M.A. degree and must be approved by the major
advisor and the Associate Dean. The maximum number of advanced
standing credits awarded is 30.

Additional Requirements: Applicants must:

1. Include with the application a repertoire list indicating works
   previously studied. The list should indicate which of the works were
   performed publicly and, if possible, where and when they were
   performed.

2. Show transcript evidence at the master’s level in the area of
   bibliographical resources in music. If no transcript evidence is
   available, students must take MUST 8701 Research in Music in
   addition to the 6 required credits within the History/Theory area.

Other: Due to the large number of applications for admission and
the competitive nature of its music programs, the College admits
only a portion of its applicants. In addition to the general admissions
credentials required of all Temple University graduate applicants,
specialized admission criteria (i.e., auditions, portfolios, interviews,
recommendations, departmental term papers, and standardized
examinations) are very heavily weighted in admission decisions of the
Boyer College of Music and Dance. Graduate applicants may be rejected
for admission for failing to obtain the required level of proficiency in any
one area of the specialized admission criteria regardless of the level of
success in meeting the Temple University general admission criteria. In
addition to the level of success demonstrated in the above-mentioned
criteria, a final admission factor is the College’s Optimum Enrollment
Policy. This Policy may preclude the admission of any student who meets
the minimum requirements.

Program Requirements

General Program Requirements:

Number of Didactic Credits Required Beyond the Master’s: 54

Required Courses:

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tr>
<td>MUSC 9011</td>
<td>Doctoral Chamber Music</td>
<td>1</td>
</tr>
</tbody>
</table>
periods of music are included. It is expected that all examinees are acquainted with the standard literature of music.

2. Harmony Exam: This exam involves completion of a harmonic excerpt in advanced chromatic idiom and the creation of a bass line with figuration (figured bass) in Baroque style.

3. Counterpoint Exam: From a given motive, approximately 20 measures of imitative counterpoint in three parts are to be completed.

4. Form and Analysis Exam: A score is provided at the examination that requires analysis of specified passages.

5. Literature and Pedagogy Exam: This examination focuses on the literature and pedagogy of the instrument of specialization.

6. Writing Sample: A 90-minute examination of the student's ability to write at the doctoral level is conducted. Examination topics are of a general nature.

**Diagnostic Recital:**
A diagnostic recital is required and must be performed before a faculty jury at the conclusion of the first term of study. The candidate must contact her/his advisor to arrange the jury. The recital consists of a full program, approximately 45 minutes in length, and may include the performance (with music) of a new composition that is presented to the applicant for study 48 hours in advance of the jury. An analysis of repertoire and technical needs results.

**Continuous Registration:**
Continuous registration of at least 3 credits must be maintained each term, with the exception of Summer, from the time of acceptance into the D.M.A. program in Music Performance until the completion of all coursework.

**Continuation in the D.M.A. Program:**
Each course or seminar requires an end-of-term final grade based on papers prepared, recitals presented, discussion, and/or examinations taken during the course of the term. Each term of private study culminates in a performance examination or jury, except during terms in which the student has presented one of the required adjudicated recitals. Screening for continuance in the program after the first term of study is conducted at adjudicated recitals, end-of-the-term juries, and major examinations. This ensures that only the most qualified students continue beyond the early stages of the program.

For all doctoral programs, only grades from "A" to "B-" can be applied toward degree requirements. Grades of less than "B-" cannot be counted toward the degree. If the student earns a grade of less than "B-," s/he may, with permission of the department chair and the Associate Dean, retake the term of study one additional time. The same applies to recitals.

**Professional Development Policy:**
In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

**Performing Ensembles:**
1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.

2. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

**Independent Study Courses:**
Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

**Acceptable English:**
All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

**Graduate Private Lesson Policy:**
Weekly one-hour private lessons are provided for all matriculated master's and doctoral performance majors in good standing, provided at least three additional credits of programmatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

The four terms of private lessons must be taken consecutively, with the exception of summers. Any deviation from this must have the approval of the advisor, department chair, and the Associate Dean of the Boyer College of Music and Dance. Graduate assistantships and other forms of University-sponsored financial aid do not cover private lesson and recital extension fees.

**Written Preliminary Examinations:**
The written preliminary examinations may be taken during the final term of coursework, but no later than in the term after completion of coursework. They are administered several times each calendar year, and span two consecutive days of six hours of examination each day. Written and performance examinations should be taken no later than the end of the fifth year to allow for the successful completion of the Final Recital and the writing of the monograph. Preliminary examinations must be successfully completed before formal work on the monograph may be undertaken and before the Final Recital may be presented.

Students planning to take the written examinations should request a list of dates from the graduate secretary and submit a written request to the Associate Dean one month prior to the administration date. Students are then notified in writing of the specific dates and administration times of the preliminary examinations for which they have been scheduled.

The examinations consist of questions relating to the major and minor areas and to musical style; require the student to comment articulately on the style and historical significance of musical compositions; and entail the student discussing and defending the principles of performance on the basis of which s/he would undertake to perform any composition in her/his major area. The questions are prepared by faculty members within the student's major and minor subject areas. At least two graduate faculty members read each section of the written preliminary examinations. Students typically are graded "Pass" or "Fail" based on a consensus of the examination readers.

**Oral Preliminary Examinations:**
For those students who pass the written preliminary examinations, no oral preliminary examination is required. (This refers only to the oral preliminary examination and does not refer in any way to the oral defense of the dissertation/monograph.)

If a student fails one or more portions of the written preliminary examination, an oral examination is administered by the major advisor and a minimum of two additional faculty members. In the case of failure in one subject area, two members of that department are asked by the student's major advisor to participate with the major advisor in the examination. In the case of failure in more than one subject area, at least one faculty member from each of the departments in which the failure occurred is asked by the student's major advisor to participate in the examination.

The examination is to be a formal oral examination rather than an informal meeting with graduate faculty from departments in which the examination revealed that the student needs further work. This does not preclude such informal meetings, however, in preparation for the oral examination. Upon passing the oral examination, the student, as advised by the examining committee, is permitted to schedule a second and final attempt at the failed portions of the written examination.

**Final Recital and Monograph Proposal:**
After the successful completion of the written preliminary examinations, MUSC 9984 DMA Final Recital and written monograph are undertaken in consultation with the major advisor, the department chair, and the Doctoral Advisory Committee (DAC). The DAC shall be appointed by the Associate Dean to adjudicate the Final Recital and to guide the student in writing both the monograph proposal and the final document itself. When the student, in consultation with the major advisor and department chair, has identified a tentative advisory committee, the chair gives those names to the Associate Dean for consideration. The Associate Dean appoints the DAC. The DAC consists of no fewer than three persons: two faculty members from within the department, and a third person from outside the department. Members of the DAC serve as the adjudicators of the Final Recital.

After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers within 30 days one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School. Students register for MUSC 9998 during the writing of the monograph proposal and MUSC 9999 after the proposal has been officially approved. Doctoral candidates are required to register for a minimum of 6 credit
hours of MUSC 9999 Monograph Research during their program as a whole and must register for a minimum of 1 such credit each term.

Recital Extension:
Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a “Credit/No Credit” basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of “CR.” Credit derived from Recital Extension will not be counted toward degree requirements.

1. Recital Extension Fees: Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.

2. Exceptions to Recital Extension:
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.

3. Failure to Present Recital: The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

Final Oral Examination:
When the monograph is complete, the major advisor of the Doctoral Advisory Committee (DAC) asks the Associate Dean to appoint an outside reader. The DAC plus the outside reader constitute the Dissertation Examining Committee (DEC) for the monograph defense. Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary. Doctoral candidates must submit a defense copy of the monograph to the DAC plus an “outside” reader, who is an additional graduate faculty member from Temple or another university, but not from the faculty of the student’s home department.

Monograph:
Early in the term in which a defense of the monograph is anticipated, the major advisor notifies the Associate Dean that it is time to appoint the Dissertation Examining Committee (DEC). The DEC consists of the DAC plus an “outside” reader, who is an additional graduate faculty member from Temple or another university, but not from the faculty of the student’s home department.

Incompletes:
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:
Final Recital:
Students may present the DMA Final Recital (MUSC 9984) after the preliminary examination has been completed and the DAC has been appointed.

Proposal:
After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School within 30 days.

Monograph:
When the monograph is complete, the major advisor notifies the Associate Dean that it is time to appoint the Dissertation Examining Committee (DEC). The DEC consists of the DAC plus an “outside” reader, who is an additional graduate faculty member from Temple or another university, but not from the faculty of the student’s home department.

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All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

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Incompletes:
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:
Final Recital:
Music Performance/Trumpet, D.M.A.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program

The objective of the D.M.A. program in Trumpet Performance is to foster growth and development of the highest and most sophisticated expression of musical interpretation through performance under the guidance of a very highly specialized faculty.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Accreditation: The degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Diverse areas of study are included to ensure the broadest possible cultivation and expansion of students' talents.

Job Prospects: Graduates of the program typically find employment in professional music ensembles throughout the world, in colleges and universities, and in private teaching studios, among other employment venues.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financial Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistanshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:

Fall: November 15

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours. Doctoral candidates must hold the Master of Music degree (or the equivalent) in the field of specialization from an accredited institution. Applicants accepted with deficiencies will find the deficiencies noted in the letter of admission. Deficiencies must be addressed prior to completion of the degree.

Master's Degree in Discipline/Related Discipline: A degree in Music is expected.

Bachelor's Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:

TOEFL: 100 iBT or 600 PBT minimum

Prescreening Video and Audition: Applicants submit a prescreening video via Acceptd (https://app.getacceptd.com/templeboyer). This recording may contain representative movements of the audition material, with the majority of the material having been recorded within the last 12 months. Video recordings of accompanied works must have piano or orchestral accompaniment. If preliminary approval is granted, an in-person live audition is arranged. Audition repertoire requirements include:

- A concerto, sonata, or solo piece from the Classical, Romantic, or Impressionistic period.
- A concerto, sonata, or solo piece from the 20th Century.
- Excerpts from the standard orchestral repertoire.

All works, except sonatas, should be memorized.


Interview: Applicants are interviewed by the department chair and Associate Dean at the time of the live audition.
Resume: Current resume required.

Writing Examination: An on-site Writing Examination is required as part of the doctoral admissions process. Remedial coursework may be required.

Advanced Standing: The D.M.A. program in Music Performance consists of 55 discrete credits taken beyond the master’s degree. At the time of admission, the entire master's degree serves as advanced standing credits. These credits are not counted toward the 55 required credits of the doctoral degree. However, students may transfer into the doctoral program up to 12 additional graduate credits in coursework taken beyond the master’s degree. Typically, this coursework is reviewed after admission to the D.M.A. degree and must be approved by the major advisor and the Associate Dean. The maximum number of advanced standing credits awarded is 30.

Additional Requirements: Applicants must:

1. Include with the application a repertoire list indicating works previously studied. The list should indicate which of the works were performed publicly and, if possible, where and when they were performed.
2. Show transcript evidence at the master’s level in the area of bibliographical resources in music. If no transcript evidence is available, students must take MUST 8701 Research in Music in addition to the 6 required credits within the History/Theory area.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College’s Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:
Number of Didactic Credits Required Beyond the Master's: 54

Required Courses:

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<tr>
<td>MUSC 9012</td>
<td>Doctoral Chamber Music</td>
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<td>MUSC 9184</td>
<td>DMA Solo Public Recital or MUSC 9884 DMA Major Opera Role</td>
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<td>MUSC 9351</td>
<td>Performance Traditions</td>
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<td>MUSC 9514</td>
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<td>Advanced Conducting-Doctoral</td>
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<td>Doctoral Instrumental Major</td>
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<td>DMA Lecture-Recital or MUSC 9784 DMA Performance with Orchestra</td>
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<td>MUSC 9701</td>
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<td>MUSC 9702</td>
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<td>MUSC 9884</td>
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<td>MUST 9701</td>
<td>Doctoral Seminar Analysis, Interpretation, and Performance</td>
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Electives

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<td>MUSC 9684</td>
<td>DMA Lecture-Recital or MUSC 9784 DMA Performance with Orchestra</td>
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<tr>
<td>MUSC 9702</td>
<td>Doct Perf Practice II</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 9884</td>
<td>DMA Major Opera Role</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 9999</td>
<td>Monograph Research</td>
<td>6</td>
</tr>
<tr>
<td>MUST 9701</td>
<td>Doctoral Seminar Analysis, Interpretation, and Performance</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours 54

1 Select from courses at the level of MUSC 8404 or higher.

Recitals:

1. Solo public recital by the conclusion of the fourth term of lessons (MUSC 9534)
2. Solo public recital (MUSC 9184) or Chamber Music Recital (MUSC 9884)
3. Lecture Recital (MUSC 9684) or Performance with Orchestra (MUSC 9784)
4. Final Doctoral Recital (MUSC 9984)

Additional Requirements:

All degree credits are to be earned at Temple University.

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4. Form and Analysis Exam: A score is provided at the examination that requires analysis of specified passages.
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Acceptable English:
All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

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Weekly one-hour private lessons are provided for all matriculated master's and doctoral performance majors in good standing, provided at least three additional credits of programatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

The four terms of private lessons must be taken consecutively, with the exception of summers. Any deviation from this must have the approval of the advisor, department chair, and the Associate Dean of the Boyer College of Music and Dance. Graduate assistantships and other forms of University-sponsored financial aid do not cover private lesson and recital extension fees.

Written Preliminary Examinations:
The written preliminary examinations may be taken during the final term of coursework, but no later than in the term after completion of coursework. They are administered several times each calendar year, and span two consecutive days of six hours of examination each day. Written and performance examinations should be taken no later than the end of the fifth year to allow for the successful completion of the Final Recital and the writing of the monograph. Preliminary examinations must be successfully completed before formal work on the monograph may be undertaken and before the Final Recital may be presented.

Students planning to take the written examinations should request a list of dates from the graduate secretary and submit a written request to the Associate Dean one month prior to the administration date. Students are then notified in writing of the specific dates and administration times of the preliminary examinations for which they have been scheduled.

The examinations consist of questions relating to the major and minor areas and to musical style; require the student to comment articulately on the style and historical significance of musical compositions; and entail the student discussing and defending the principles of performance on the basis of which s/he would undertake to perform any composition in her/his major area. The questions are prepared by faculty members within the student's major and minor subject areas. At least two
graduate faculty members read each section of the written preliminary examinations. Students typically are graded "Pass" or "Fail" based on a consensus of the examination readers.

**Oral Preliminary Examinations:**

For those students who pass the written preliminary examinations, no oral preliminary examination is required. (This refers only to the oral preliminary examination and does not refer in any way to the oral defense of the dissertation/monograph.)

If a student fails one or more portions of the written preliminary examination, an oral examination is administered by the major advisor and a minimum of two additional faculty members. In the case of failure in one subject area, two members of that department are asked by the student's major advisor to participate with the major advisor in the examination. In the case of failure in more than one subject area, at least one faculty member from each of the departments in which the failure occurred is asked by the student's major advisor to participate in the examination.

The examination is to be a formal oral examination rather than an informal meeting with graduate faculty from departments in which the examination revealed that the student needs further work. This does not preclude such informal meetings, however, in preparation for the oral examination. Upon passing the oral examination, the student, as advised by the examining committee, is permitted to schedule a second and final attempt at the failed portions of the written examination.

**Final Recital and Monograph Proposal:**

After the successful completion of the written preliminary examinations, MUSC 9994 DMA Final Recital and written monograph are undertaken in consultation with the major advisor, the department chair, and the Doctoral Advisory Committee (DAC). The DAC shall be appointed by the Associate Dean to adjudicate the Final Recital and to guide the student in writing both the monograph proposal and the final document itself. When the student, in consultation with the major advisor and department chair, has identified a tentative advisory committee, the chair gives those names to the Associate Dean for consideration. The Associate Dean appoints the DAC. The DAC consists of no fewer than three persons: two faculty members from within the department, and a third person from outside the department. Members of the DAC serve as the adjudicators of the Final Recital.

After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers within 30 days one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School. Students register for MUSC 9994 during the writing of the monograph proposal and MUSC 9999 after the proposal has been officially approved. Doctoral candidates are required to register for a minimum of 6 credit hours of MUSC 9999 Monograph Research during their program as a whole and must register for a minimum of 1 such credit each term.

**Recital Extension:**

Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a "Credit/No Credit" basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of "CR." Credit derived from Recital Extension will not be counted toward degree requirements.

1. **Recital Extension Fees:** Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.

2. **Exceptions to Recital Extension:**
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.

3. **Failure to Present Recital:** The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

**Final Oral Examination:**

When the monograph is complete, the major advisor of the Doctoral Advisory Committee (DAC) asks the Associate Dean to appoint an outside reader. The DAC plus the outside reader constitute the Dissertation Examining Committee (DEC) for the monograph defense. Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary.

Doctoral candidates must submit a defense copy of the monograph to members of the DEC and the Associate Dean at least two weeks prior to the defense. Students should register for MUSC 9999 Monograph Research (1-6 credits) each term, Fall and Spring, until the final project has been successfully defended. Doctoral candidates are required to register for a minimum of 6 credit hours of MUSC 9999 during their program as a whole, but must register for a minimum of one such credit each term.

**Incompletes:**

All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

**Culminating Events:**

**Final Recital:**

Students may present the DMA Final Recital (MUSC 9984) after the preliminary examination has been completed and the DAC has been appointed.

**Proposal:**

After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School within 30 days.

**Monograph:**
Early in the term in which a defense of the monograph is anticipated, the major advisor notifies the Associate Dean that it is time to appoint the Dissertation Examining Committee (DEC). The DEC consists of the DAC plus an “outside” reader, who is an additional graduate faculty member from Temple or another university, but not from the faculty of the student’s home department.

Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary. This includes the “Announcement of Oral Defense” form, which must bear all appropriate signatures and be submitted to the Associate Dean.

Two weeks prior to the oral defense, the student submits individual copies of the abstract and the completed dissertation/monograph to the Associate Dean and each member of the DEC. The graduate secretary notifies the Graduate School and posts notices of the impending defense on bulletin boards located within the Boyer College of Music and Dance. All members of the DEC attend the oral defense and then vote to pass or fail the monograph and its defense after the conclusion of the public presentation.

Changes in membership of a DAC or a DEC must be approved by the Associate Dean. The change also must be communicated to the Graduate School.

Contacts
Department Web Address:
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

Department Information:
Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
eschwein@temple.edu
215-204-5527

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Eric Schweingruber
eschwein@temple.edu
215-204-9792

Chairperson:
Professor Terell Stafford
terell.stafford@temple.edu
215-204-8036

Music Performance/Tuba, D.M.A.
Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program
The objective of the D.M.A. program in Tuba Performance is to foster growth and development of the highest and most sophisticated expression of musical interpretation through performance under the guidance of a very highly specialized faculty.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Accreditation: The degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Diverse areas of study are included to ensure the broadest possible cultivation and expansion of students’ talents.

Job Prospects: Graduates of the program typically find employment in professional music ensembles throughout the world, in colleges and universities, and in private teaching studios, among other employment venues.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer’s website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master’s students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines
Application Deadline:
Fall: November 15

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2
From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant’s abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours. Doctoral candidates must hold the Master of Music degree (or the equivalent) in the field of specialization from an accredited institution. Applicants accepted with deficiencies will find the deficiencies noted in the letter of admission. Deficiencies must be addressed prior to completion of the degree.

Master’s Degree in Discipline/Related Discipline: A degree in Music is expected.

Bachelor’s Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:
TOEFL: 100 iBT or 600 PBT minimum

Prescreening Video and Audition: Applicants submit a prescreening video via Acceptd (https://app.getacceptd.com/templeboyer). This recording may contain representative movements of the audition material, with the majority of the material having been recorded within the last 12 months. Video recordings of accompanied works must have piano or orchestral accompaniment.

If preliminary approval is granted, an in-person live audition is arranged. Audition repertoire requirements include:

• A concerto, sonata, or solo piece from the Classical, Romantic, or Impressionistic period.
• A concerto, sonata, or solo piece from the 20th Century.
• Excerpts from the standard orchestral repertoire.

All works, except sonatas, should be memorized. Applicants must arrange for an accompanist for the live audition.

Note that video recordings alone are not acceptable for admission, except in the case of students living outside the United States. In this case, applicants must submit a video recording of complete works.


Interview: Applicants are interviewed by the department chair and Associate Dean at the time of the live audition.

Resume: Current resume required.

Writing Examination: An on-site Writing Examination is required as part of the doctoral admissions process. Remedial coursework may be required.

Advanced Standing: The D.M.A. program in Music Performance consists of 55 discrete credits taken beyond the master’s degree. At the time of admission, the entire master's degree serves as advanced standing credits. These credits are not counted toward the 55 required credits of the doctoral degree. However, students may transfer into the doctoral program up to 12 additional graduate credits in coursework taken beyond the master's degree. Typically, this coursework is reviewed after admission to the D.M.A. degree and must be approved by the major advisor and the Associate Dean. The maximum number of advanced standing credits awarded is 30.

Additional Requirements: Applicants must:

1. Include with the application a repertoire list indicating works previously studied. The list should indicate which of the works were performed publicly and, if possible, where and when they were performed.
2. Show transcript evidence at the master's level in the area of bibliographical resources in music. If no transcript evidence is available, students must take MUST 8701 Research in Music in addition to the 6 required credits within the History/Theory area.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College’s Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:
Number of Didactic Credits Required Beyond the Master’s: 54

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
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<td>MUSC 9011</td>
<td>Doctoral Chamber Music</td>
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<tr>
<td>MUSC 9012</td>
<td>Doctoral Chamber Music</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 9184</td>
<td>DMA Solo Public Recital</td>
<td>1</td>
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<tr>
<td>or MUSC 9884</td>
<td>DMA Major Opera Role</td>
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<tr>
<td>MUSC 9351</td>
<td>Performance Traditions</td>
<td>3</td>
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<tr>
<td>MUSC 9504</td>
<td>Doctoral Instrumental Major</td>
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<td>MUSC 9514</td>
<td>Doctoral Instrumental Major</td>
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<td>MUSC 9517</td>
<td>Advanced Conducting-Doctoral</td>
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<td>MUSC 9524</td>
<td>Doctoral Instrumental Major</td>
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</tr>
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<td>Doctoral Instrumental Major</td>
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<td>MUSC 9561</td>
<td>Single Reed Woodwind Ped</td>
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<tr>
<td>MUSC 9684</td>
<td>DMA Lecture-Recital</td>
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<td>or MUSC 9784</td>
<td>DMA Performance with Orchestra</td>
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<tr>
<td>MUSC 9701</td>
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<td>3</td>
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<thead>
<tr>
<th>Electives</th>
<th>Total Credit Hours</th>
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<tr>
<td>Music History</td>
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<tr>
<td>Advanced Music</td>
<td>3</td>
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<tr>
<td>Minor Area in Music</td>
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</tbody>
</table>

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6. Writing Sample: A 90-minute examination of the student's ability to write at the doctoral level is conducted. Examination topics are of a general nature.

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The four terms of private lessons must be taken consecutively, with the exception of summers. Any deviation from this must have the approval of the advisor, department chair, and the Associate Dean of the Boyer College of Music and Dance. Graduate assistantships and other forms of University-sponsored financial aid do not cover private lesson and recital extension fees.

Written Preliminary Examinations:
The written preliminary examinations may be taken during the final term of coursework, but no later than in the term after completion of coursework. They are administered several times each calendar year, and span two consecutive days of six hours of examination each day. Written and performance examinations should be taken no later than the end of the fifth year to allow for the successful completion of the Final Recital and the writing of the monograph. Preliminary examinations must be successfully completed before formal work on the monograph may be undertaken and before the Final Recital may be presented.

Students planning to take the written examinations should request a list of dates from the graduate secretary and submit a written request to the Associate Dean one month prior to the administration date. Students are then notified in writing of the specific dates and administration times of the preliminary examinations for which they have been scheduled.

The examinations consist of questions relating to the major and minor areas and to musical style; require the student to comment articulately on the style and historical significance of musical compositions; and entail the student discussing and defending the principles of performance on the basis of which s/he would undertake to perform any composition in her/his major area. The questions are prepared by faculty members within the student’s major and minor subject areas. At least two graduate faculty members read each section of the written preliminary examinations. Students typically are graded “Pass” or “Fail” based on a consensus of the examination readers.

Oral Preliminary Examinations:
For those students who pass the written preliminary examinations, no oral preliminary examination is required. (This refers only to the oral preliminary examination and does not refer in any way to the oral defense of the dissertation/monograph.) If a student fails one or more portions of the written preliminary examination, an oral examination is administered by the major advisor and a minimum of two additional faculty members. In the case of failure

in one subject area, two members of that department are asked by the student’s major advisor to participate in the examination. In the case of failure in more than one subject area, at least one faculty member from each of the departments in which the failure occurred is asked by the student’s major advisor to participate in the examination.

The examination is to be a formal oral examination rather than an informal meeting with graduate faculty from departments in which the examination revealed that the student needs further work. This does not preclude such informal meetings, however, in preparation for the oral examination. Upon passing the oral examination, the student, as advised by the examining committee, is permitted to schedule a second and final attempt at the failed portions of the written examination.

Final Recital and Monograph Proposal:
After the successful completion of the written preliminary examinations, MUSC 9984 DMA Final Recital and written monograph are undertaken in consultation with the major advisor, the department chair, and the Doctoral Advisory Committee (DAC). The DAC shall be appointed by the Associate Dean to adjudicate the Final Recital and to guide the student in writing both the monograph proposal and the final document itself. When the student, in consultation with the major advisor and department chair, has identified a tentative advisory committee, the chair gives those names to the Associate Dean for consideration. The Associate Dean appoints the DAC. The DAC consists of no fewer than three persons: two faculty members from within the department, and a third person from outside the department. Members of the DAC serve as the adjudicators of the Final Recital.

After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers within 30 days one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School. Students register for MUSC 9998 during the writing of the monograph proposal and MUSC 9999 after the proposal has been officially approved. Doctoral candidates are required to register for a minimum of 6 credit hours of MUSC 9999 Monograph Research during their program as a whole and must register for a minimum of 1 such credit each term.

Recital Extension:
Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a "Credit/No Credit" basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of "CR." Credit derived from Recital Extension will not be counted toward degree requirements.

1. Recital Extension Fees: Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.

2. Exceptions to Recital Extension:
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall
term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.

3. Failure to Present Recital: The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

Final Oral Examination:
When the monograph is complete, the major advisor of the Doctoral Advisory Committee (DAC) asks the Associate Dean to appoint an outside reader. The DAC plus the outside reader constitute the Dissertation Examining Committee (DEC) for the monograph defense. Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary.

Doctoral candidates must submit a defense copy of the monograph to the Associate Dean at least two weeks prior to the oral defense and then vote to pass or fail the monograph and its defense after the conclusion of the public presentation.

Changes in membership of a DAC or a DEC must be approved by the Associate Dean. The change also must be communicated to the Graduate School.

Contacts

Department Web Address:
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

Department Information:
Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
eschwein@temple.edu
215-204-5527

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Eric Schweingruber
eschwein@temple.edu
215-204-9792

Chairperson:
Professor Terell Stafford
terell.stafford@temple.edu
215-204-8036

Music Performance/Viola, D.M.A.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program
The objective of the D.M.A. program in Viola Performance is to foster growth and development of the highest and most sophisticated expression of musical interpretation through performance under the guidance of a very highly specialized faculty.

Time Limit for Degree Completion: 7 years
Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Accreditation: The degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Diverse areas of study are included to ensure the broadest possible cultivation and expansion of students' talents.

Job Prospects: Graduates of the program typically find employment in professional music ensembles throughout the world, in colleges and universities, and in private teaching studios, among other employment venues.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistantship, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:

Fall: November 15

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours. Doctoral candidates must hold the Master of Music degree (or the equivalent) in the field of specialization from an accredited institution. Applicants accepted with deficiencies will find the deficiencies noted in the letter of admission. Deficiencies must be addressed prior to completion of the degree.

Master's Degree in Discipline/Related Discipline: A degree in Music is expected.

Bachelor's Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:

TOEFL: 100 iBT or 600 PBT minimum

Prescreening Video and Audition: Applicants submit a prescreening video via Acceptd (https://app.getacceptd.com/templeboyer). This recording may contain representative movements of the audition material, with the majority of the material having been recorded within the last 12 months. Video recordings of accompanied works must have piano or orchestral accompaniment.

If preliminary approval is granted, an in-person live audition is arranged. Audition repertoire requirements include:

- Two contrasting movements from a Bach unaccompanied suite.
- A major concerto such as Bartok, Hindemith, Hoffmeister, Stamitz, or Walton.
- A sonata or similar work of contrasting period/style from the concerto, i.e., Classical or 20th Century if the concerto is Romantic, or Romantic or Classical if the concerto is 20th Century.
- A virtuoso composition such as Allegro di molto from Haydn's Divertimento in D Major, Hummel, Paganini, or Rolla.

Note that video recordings alone are not acceptable for admission, except in the case of students living outside the United States. In this case, applicants must submit a video recording of complete works.


Interview: Applicants are interviewed by the department chair and Associate Dean at the time of the live audition.

Resume: Current resume required.

Writing Examination: An on-site Writing Examination is required as part of the doctoral admissions process. Remedial coursework may be required.

Advanced Standing: The D.M.A. program in Music Performance consists of 55 discrete credits taken beyond the master's degree. At the time of admission, the entire master's degree serves as advanced standing credits. These credits are not counted toward the 55 required credits of the doctoral degree. However, students may transfer into the doctoral program up to 12 additional graduate credits in coursework taken beyond the master's degree. Typically, this coursework is reviewed after admission to the D.M.A. degree and must be approved by the major advisor and the Associate Dean. The maximum number of advanced standing credits awarded is 32.

Additional Requirements: Applicants must:

1. Include with the application a repertoire list indicating works previously studied. The list should indicate which of the works were performed publicly and, if possible, where and when they were performed.
2. Show transcript evidence at the master's level in the area of bibliographical resources in music. If no transcript evidence is
available, students must take MUST 8701 Research in Music in addition to the 6 required credits within the History/Theory area.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:
Number of Didactic Credits Required Beyond the Master's: 55

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>MUSC 8500</td>
<td>Instrumental Ensemble</td>
<td>1</td>
</tr>
<tr>
<td>or MUSC 8510 Instrumental Ensemble</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUSC 9004</td>
<td>Doctoral String Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 9011</td>
<td>Doctoral Chamber Music</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 9012</td>
<td>Doctoral Chamber Music</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 9014</td>
<td>Doctoral String Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 9021</td>
<td>Chamber Music</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 9024</td>
<td>Doctoral String Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 9034</td>
<td>String Major Doctorate</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 9184</td>
<td>DMA Solo Public Recital</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 9351</td>
<td>Performance Traditions</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 9384</td>
<td>DMA Chamber Recital</td>
<td>1</td>
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<tr>
<td>or MUSC 9684 DMA Lecture-Recital</td>
<td></td>
<td></td>
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<tr>
<td>MUSC 9515</td>
<td>Technical and Interpretive Seminar-Strings</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 9516</td>
<td>Seminar for String Literature</td>
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<tr>
<td>MUSC 9517</td>
<td>Advanced Conducting-Doctoral</td>
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<tr>
<td>MUSC 9561</td>
<td>Single Reed Woodwind Ped</td>
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</tr>
<tr>
<td>MUSC 9784</td>
<td>DMA Performance with Orchestra</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 9984</td>
<td>DMA Final Recital</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 9999</td>
<td>Monograph Research</td>
<td>6</td>
</tr>
<tr>
<td>MUST 9701</td>
<td>Doctoral Seminar Analysis, Interpretation, and</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Performance</td>
<td></td>
</tr>
</tbody>
</table>

Elective in Music History                           3
Minor Area in Music 1                                12
Total Credit Hours                                   55

1 Select from courses at the level of MUSC 8404 or higher.

Recitals:

1. Solo public recital by the conclusion of the fourth term of lessons (MUSC 9184)
2. Chamber Music Recital (MUSC 9384) or Lecture Recital (MUSC 9684)
3. Performance with Orchestra (MUSC 9784)
4. Final Doctoral Recital (MUSC 9984)

Additional Requirements:

All degree credits are to be earned at Temple University.

Written Entrance Examinations:
All doctoral students must take written entrance exams prior to or during the first term of doctoral study. Candidates who fail the entrance examinations the first time may, upon application to the Associate Dean for Graduate Studies of the Boyer College of Music and Dance, be permitted to take the examinations a second time. A third opportunity is not allowed.

To continue registration in the doctoral program beyond the second term of study, all portions of the examinations must be passed or the appropriate review courses (or the equivalent, as determined by the examining department) must be in progress. Students planning to take the written examinations should request a list of dates from the graduate secretary and submit a written request to the Associate Dean one month prior to the administration date.

1. Music History Exam: A general examination covering the history of music is administered. Questions relative to forms, styles, and periods of music are included. It is expected that all examinees are acquainted with the standard literature of music.
2. Harmony Exam: This exam involves completion of a harmonic excerpt in advanced chromatic idiom and the creation of a bass line with figuration (figured bass) in Baroque style.
3. Counterpoint Exam: From a given motive, approximately 20 measures of imitative counterpoint in three parts are to be completed.
4. Form and Analysis Exam: A score is provided at the examination that requires analysis of specified passages.
5. Literature and Pedagogy Exam: This examination focuses on the literature and pedagogy of the instrument of specialization.
6. Writing Sample: A 90-minute examination of the student’s ability to write at the doctoral level is conducted. Examination topics are of a general nature.

Diagnostic Recital:
A diagnostic recital is required and must be performed before a faculty jury at the conclusion of the first term of study. The candidate must contact her/his advisor to arrange the jury. The recital consists of a full program, approximately 45 minutes in length, and may include the performance (with music) of a new composition that is presented to the applicant for study 48 hours in advance of the jury. An analysis of repertoire and technical needs results.

Continuous Registration:
Continuous registration of at least 3 credits must be maintained each term, with the exception of Summer, from the time of acceptance into the D.M.A. program in Music Performance until the completion of all coursework.

Continuation in the D.M.A. Program:
Each course or seminar requires an end-of-term final grade based on papers prepared, recitals presented, discussion, and/or examinations
taken during the course of the term. Each term of private study culminates in a performance examination or jury, except during terms in which the student has presented one of the required adjudicated recitals. Screening for continuance in the program after the first term of study is conducted at adjudicated recitals, end-of-the-term juries, and major examinations. This ensures that only the most qualified students continue beyond the early stages of the program.

For all doctoral programs, only grades from "A" to "B-" can be applied toward degree requirements. Grades of less than "B-" cannot be counted toward the degree. If the student earns a grade of less than "B-" s/he may, with permission of the department chair and the Associate Dean, retake the term of study one additional time. The same applies to recitals.

Professional Development Policy:
In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:
1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.
2. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

Independent Study Courses:
Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:
All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

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by the examining committee, is permitted to schedule a second and final attempt at the failed portions of the written examination.

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After the successful completion of the written preliminary examinations, MUSC 9984 DMA Final Recital and written monograph are undertaken in consultation with the major advisor, the department chair, and the Doctoral Advisory Committee (DAC). The DAC shall be appointed by the Associate Dean to adjudicate the Final Recital and to guide the student in writing both the monograph proposal and the final document itself. When the student, in consultation with the major advisor and department chair, has identified a tentative advisory committee, the chair gives those names to the Associate Dean for consideration. The Associate Dean appoints the DAC. The DAC consists of no fewer than three persons: two faculty members from within the department, and a third person from outside the department. Members of the DAC serve as the adjudicators of the Final Recital.

After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers within 30 days one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School. Students register for MUSC 9998 during the writing of the monograph proposal and MUSC 9999 after the proposal has been officially approved. Doctoral candidates are required to register for a minimum of 6 credit hours of MUSC 9999 Monograph Research during their program as a whole and must register for a minimum of 1 such credit each term.

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1. **Recital Extension Fees:** Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.

2. **Exceptions to Recital Extension:**
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.

3. **Failure to Present Recital:** The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

**Final Oral Examination:**
When the monograph is complete, the major advisor of the Doctoral Advisory Committee (DAC) asks the Associate Dean to appoint an outside reader. The DAC plus the outside reader constitute the Dissertation Examining Committee (DEC) for the monograph defense. Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary.

Doctoral candidates must submit a defense copy of the monograph to members of the DEC and the Associate Dean at least two weeks prior to the defense. Students should register for MUSC 9999 Monograph Research (1-6 credits) each term, Fall and Spring, until the final project has been successfully defended. Doctoral candidates are required to register for a minimum of 6 credit hours of MUSC 9999 during their program as a whole, but must register for a minimum of one such credit each term.

**Incomplete:**
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

**Culminating Events:**

**Final Recital:**
Students may present the DMA Final Recital (MUSC 9984) after the preliminary examination has been completed and the DAC has been appointed.

**Proposal:**
After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School within 30 days.

**Monograph:**
Early in the term in which a defense of the monograph is anticipated, the major advisor notifies the Associate Dean that it is time to appoint the Dissertation Examining Committee (DEC). The DEC consists of the DAC plus an “outside” reader, who is an additional graduate faculty member from Temple or another university, but not from the faculty of the student’s home department.

Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary. This includes the “Announcement of Oral Defense” form, which must bear all appropriate signatures and be submitted to the Associate Dean.

Two weeks prior to the oral defense, the student submits individual copies of the abstract and the completed dissertation/monograph to the Associate Dean and each member of the DEC. The graduate secretary notifies the Graduate School and posts notices of the impending defense on bulletin boards located within the Boyer College of Music and Dance. All members of the DEC attend the oral defense and then vote to pass or fail the monograph and its defense after the conclusion of the public presentation.
Changes in membership of a DAC or a DEC must be approved by the Associate Dean. The change also must be communicated to the Graduate School.

Contacts

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Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
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215-204-8598

Program Coordinator:
Professor Jeffrey Solow
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215-204-5527

Chairperson:
Professor Terell Stafford
terell.stafford@temple.edu
215-204-8036

Music Performance/Violin, D.M.A.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program

The objective of the D.M.A. program in Violin Performance is to foster growth and development of the highest and most sophisticated expression of musical interpretation through performance under the guidance of a very highly specialized faculty.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Accreditation: The degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: Diverse areas of study are included to ensure the broadest possible cultivation and expansion of students' talents.

Job Prospects: Graduates of the program typically find employment in professional music ensembles throughout the world, in colleges and universities, and in private teaching studios, among other employment venues.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:
Fall: November 15

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2
From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours. Doctoral candidates must hold the Master of Music degree (or the equivalent) in the field of specialization from an accredited institution. Applicants accepted with deficiencies will find the deficiencies noted in the letter of admission. Deficiencies must be addressed prior to completion of the degree.

Master's Degree in Discipline/Related Discipline: A degree in Music is expected.

Bachelor's Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:
TOEFL: 100 iBT or 600 PBT minimum

Prescreening Video and Audition: Applicants submit a prescreening video via Acceptd (https://app.getacceptd.com/templeboyer). This
recording may contain representative movements of the audition material, with the majority of the material having been recorded within the last 12 months. Video recordings of accompanied works must have piano or orchestral accompaniment.

If preliminary approval is granted, an in-person live audition is arranged. Audition repertoire requirements include:

- Two contrasting movements from a Bach unaccompanied sonata or partita. (A chaconne is acceptable on its own.)
- One of the following: Mozart's Violin Concerto No. 3 in G major, K. 216; Violin Concerto No. 4 in D major, K. 218; or Violin Concerto No. 5 in A major, K. 219.
- One major concerto such as Bartok, Beethoven, Brahms, Bruch, Mendelssohn, Mozart, Prokofiev, Shostakovich, Sibelius, or Tchaikovsky.
- One sonata of contrasting period/style from the concerto, i.e., Classical period if the concerto is Romantic or Romantic if the concerto is Classical.
- One virtuoso composition such as Paganini, Sarasate, Wieniawski, and the like.

Note that video recordings alone are not acceptable for admission, except in the case of students living outside the United States. In this case, applicants must submit a video recording of complete works.


Interview: Applicants are interviewed by the department chair and Associate Dean at the time of the live audition.

Resume: Current resume required.

Writing Examination: An on-site Writing Examination is required as part of the doctoral admissions process. Remedial coursework may be required.

Advanced Standing: The D.M.A. program in Music Performance consists of 55 discrete credits taken beyond the master's degree. At the time of admission, the entire master's degree serves as advanced standing credits. These credits are not counted toward the 55 required credits of the doctoral degree. However, students may transfer into the doctoral program up to 12 additional graduate credits in coursework taken beyond the master's degree. Typically, this coursework is reviewed after admission to the D.M.A. degree and must be approved by the major advisor and the Associate Dean. The maximum number of advanced standing credits awarded is 32.

Additional Requirements: Applicants must:

1. Include with the application a repertoire list indicating works previously studied. The list should indicate which of the works were performed publicly and, if possible, where and when they were performed.
2. Show transcript evidence at the master's level in the area of bibliographical resources in music. If no transcript evidence is available, students must take MUST 8701 Research in Music in addition to the 6 required credits within the History/Theory area.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:

Number of Didactic Credits Required Beyond the Master's: 55

Required Courses:

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tr>
<td>MUSC 8500</td>
<td>Instrumental Ensemble</td>
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<td>or MUSC 8510 Instrumental Ensemble</td>
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<td>MUSC 9004</td>
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<td>MUSC 9024</td>
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<td>MUSC 9034</td>
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<td>MUSC 9184</td>
<td>DMA Solo Public Recital</td>
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<td>MUSC 9351</td>
<td>Performance Traditions</td>
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<td>MUSC 9384</td>
<td>DMA Chamber Recital</td>
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<td>or MUSC 9684 DMA Lecture-Recital</td>
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<tr>
<td>MUSC 9515</td>
<td>Technical and Interpretive Seminar-Strings</td>
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<td>MUSC 9516</td>
<td>Seminar for String Literature</td>
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<td>MUSC 9517</td>
<td>Advanced Conducting-Doctoral</td>
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<td>MUSC 9561</td>
<td>Single Reed Woodwind Ped</td>
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<td>MUSC 9784</td>
<td>DMA Performance with Orchestra</td>
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<td>MUSC 9984</td>
<td>DMA Final Recital</td>
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<td>MUSC 9999</td>
<td>Monograph Research</td>
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<td>MUST 9701</td>
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<td>Minor Area in Music 1</td>
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Total Credit Hours: 55

1 Select from courses at the level of MUSC 8404 or higher.

Recitals:

1. Solo public recital by the conclusion of the fourth term of lessons (MUSC 9184)
2. Chamber Music Recital (MUSC 9384) or Lecture Recital (MUSC 9684)
3. Performance with Orchestra (MUSC 9784)
4. Final Doctoral Recital (MUSC 9984)
Additional Requirements:

All degree credits are to be earned at Temple University.

Written Entrance Examinations:
All doctoral students must take written entrance exams prior to or during the first term of doctoral study. Candidates who fail the entrance examinations the first time may, upon application to the Associate Dean for Graduate Studies of the Boyer College of Music and Dance, be permitted to take the examinations a second time. A third opportunity is not allowed.

To continue registration in the doctoral program beyond the second term of study, all portions of the examinations must be passed or the appropriate review courses (or the equivalent, as determined by the examining department) must be in progress. Students planning to take the written examinations should request a list of dates from the graduate secretary and submit a written request to the Associate Dean one month prior to the administration date.

1. Music History Exam: A general examination covering the history of music is administered. Questions relative to forms, styles, and periods of music are included. It is expected that all examinees are acquainted with the standard literature of music.
2. Harmony Exam: This exam involves completion of a harmonic excerpt in advanced chromatic idiom and the creation of a bass line with figuration (figured bass) in Baroque style.
3. Counterpoint Exam: From a given motive, approximately 20 measures of imitative counterpoint in three parts are to be completed.
4. Form and Analysis Exam: A score is provided at the examination that requires analysis of specified passages.
5. Literature and Pedagogy Exam: This examination focuses on the literature and pedagogy of the instrument of specialization.
6. Writing Sample: A 90-minute examination of the student's ability to write at the doctoral level is conducted. Examination topics are of a general nature.

Diagnostic Recital:
A diagnostic recital is required and must be performed before a faculty jury at the conclusion of the first term of study. The candidate must contact her/his advisor to arrange the jury. The recital consists of a full program, approximately 45 minutes in length, and may include the performance (with music) of a new composition that is presented to the applicant for study 48 hours in advance of the jury. An analysis of repertoire and technical needs results.

Continuous Registration:
Continuous registration of at least 3 credits must be maintained each term, with the exception of Summer, from the time of acceptance into the D.M.A. program in Music Performance until the completion of all coursework.

Continuation in the D.M.A. Program:
Each course or seminar requires an end-of-term final grade based on papers prepared, recitals presented, discussion, and/or examinations taken during the course of the term. Each term of private study culminates in a performance examination or jury, except during terms in which the student has presented one of the required adjudicated recitals. Screening for continuance in the program after the first term of study is conducted at adjudicated recitals, end-of-the-term juries, and major examinations. This ensures that only the most qualified students continue beyond the early stages of the program.

For all doctoral programs, only grades from "A" to "B-" can be applied toward degree requirements. Grades of less than "B-" cannot be counted toward the degree. If the student earns a grade of less than "B-" s/he may, with permission of the department chair and the Associate Dean, retake the term of study one additional time. The same applies to recitals.

Professional Development Policy:
In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:

1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.
2. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

Independent Study Courses:
Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:
All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:
Weekly one-hour private lessons are provided for all matriculated master's and doctoral performance majors in good standing, provided at least three additional credits of programmatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.
The four terms of private lessons must be taken consecutively, with the exception of summers. Any deviation from this must have the approval of the advisor, department chair, and the Associate Dean of the Boyer College of Music and Dance. Graduate assistantships and other forms of University-sponsored financial aid do not cover private lesson and recital extension fees.

**Written Preliminary Examinations:**
The written preliminary examinations may be taken during the final term of coursework, but no later than in the term after completion of coursework. They are administered several times each calendar year, and span two consecutive days of six hours of examination each day. Written and performance examinations should be taken no later than the end of the fifth year to allow for the successful completion of the Final Recital and the writing of the monograph. Preliminary examinations must be successfully completed before formal work on the monograph may be undertaken and before the Final Recital may be presented.

Students planning to take the written examinations should request a list of dates from the graduate secretary and submit a written request to the Associate Dean one month prior to the administration date. Students are then notified in writing of the specific dates and administration times of the preliminary examinations for which they have been scheduled.

The examinations consist of questions relating to the major and minor areas and to musical style; require the student to comment articulately on the style and historical significance of musical compositions; and entail the student discussing and defending the principles of performance on the basis of which s/he would undertake to perform any composition in her/his major area. The questions are prepared by faculty members within the student's major and minor subject areas. At least two graduate faculty members read each section of the written preliminary examinations. Students typically are graded “Pass” or “Fail” based on a consensus of the examination readers.

**Oral Preliminary Examinations:**
For those students who pass the written preliminary examinations, no oral preliminary examination is required. (This refers only to the oral preliminary examination and does not refer in any way to the oral defense of the dissertation/monograph.)

If a student fails one or more portions of the written preliminary examination, an oral examination is administered by the major advisor and a minimum of two additional faculty members. In the case of failure in one subject area, two members of that department are asked by the student's major advisor to participate with the major advisor in the examination. In the case of failure in more than one subject area, at least one faculty member from each of the departments in which the failure occurred is asked by the student's major advisor to participate in the examination.

The examination is to be a formal oral examination rather than an informal meeting with graduate faculty from departments in which the examination revealed that the student needs further work. This does not preclude such informal meetings, however, in preparation for the oral examination. Upon passing the oral examination, the student, as advised by the examining committee, is permitted to schedule a second and final attempt at the failed portions of the written examination.

**Final Recital and Monograph Proposal:**
After the successful completion of the written preliminary examinations, MUSC 9994 DMA Final Recital and written monograph are undertaken in consultation with the major advisor, the department chair, and the Doctoral Advisory Committee (DAC). The DAC shall be appointed by the Associate Dean to adjudicate the Final Recital and to guide the student in writing both the monograph proposal and the final document itself. When the student, in consultation with the major advisor and department chair, has identified a tentative advisory committee, the chair gives those names to the Associate Dean for consideration. The Associate Dean appoints the DAC. The DAC consists of no fewer than three persons: two faculty members from within the department, and a third person from outside the department. Members of the DAC serve as the adjudicators of the Final Recital.

After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers within 30 days one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School. Students register for MUSC 9998 during the writing of the monograph proposal and MUSC 9999 after the proposal has been officially approved. Doctoral candidates are required to register for a minimum of 6 credit hours of MUSC 9999 Monograph Research during their program as a whole and must register for a minimum of 1 such credit each term.

**Recital Extension:**
Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a "Credit/No Credit" basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of "CR." Credit derived from Recital Extension will not be counted toward degree requirements.

1. **Recital Extension Fees:** Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.

2. **Exceptions to Recital Extension:**
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.

3. **Failure to Present Recital:** The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

**Final Oral Examination:**
When the monograph is complete, the major advisor of the Doctoral Advisory Committee (DAC) asks the Associate Dean to appoint an outside reader. The DAC plus the outside reader constitute the Dissertation Examining Committee (DEC) for the monograph defense. Doctoral candidates must schedule a defense of the monograph with the
Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary.

Doctoral candidates must submit a defense copy of the monograph to members of the DEC and the Associate Dean at least two weeks prior to the defense. Students should register for MUSC 9999 Monograph Research (1-6 credits) each term. Fall and Spring, until the final project has been successfully defended. Doctoral candidates are required to register for a minimum of 6 credit hours of MUSC 9999 during their program as a whole, but must register for a minimum of one such credit each term.

**Incompletes:**
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

**Culminating Events:**

**Final Recital:**
Students may present the DMA Final Recital (MUSC 9984) after the preliminary examination has been completed and the DAC has been appointed.

**Proposal:**
After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School within 30 days.

**Monograph:**
Early in the term in which a defense of the monograph is anticipated, the major advisor notifies the Associate Dean that it is time to appoint the Dissertation Examining Committee (DEC). The DEC consists of the DAC plus an “outside” reader, who is an additional graduate faculty member from Temple or another university, but not from the faculty of the student's home department.

Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary. This includes the “Announcement of Oral Defense” form, which must bear all appropriate signatures and be submitted to the Associate Dean.

Two weeks prior to the oral defense, the student submits individual copies of the abstract and the completed dissertation/monograph to the Associate Dean and each member of the DEC. The graduate secretary notifies the Graduate School and posts notices of the impending defense on bulletin boards located within the Boyer College of Music and Dance. All members of the DEC attend the oral defense and then vote to pass or fail the monograph and its defense after the conclusion of the public presentation.

Changes in membership of a DAC or a DEC must be approved by the Associate Dean. The change also must be communicated to the Graduate School.

**Contacts**

**Department Web Address:**
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

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**Department Information:**

Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
terell.stafford@temple.edu
215-204-5527

**Submission Address for Application Materials:**
https://apply.temple.edu/Boyer/

**Department Contacts:**

**Admissions:**
James Short
jshort@temple.edu
215-204-8598

**Program Coordinator:**
Professor Jeffrey Solow
jeffrey.solow@temple.edu
215-204-5527

**Chairperson:**
Professor Terell Stafford
terell.stafford@temple.edu
215-204-8036

**Music Performance/Voice, D.M.A.**

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

**About the Program**

The objective of the D.M.A. program in Voice Performance is to foster growth and development of the highest and most sophisticated expression of musical interpretation through performance under the guidance of a very highly specialized faculty.

**Time Limit for Degree Completion:** 7 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The degree program can be completed on a full- or part-time basis.

**Accreditation:** The degree program is accredited by the National Association of Schools of Music (NASM).

**Areas of Specialization:** The program offers a systematic approach to vocal technique; specialized studies in vocal literature; the refinement of language and diction skills; the development of acting techniques; the continued refinement of musical and theoretical skills; advanced study in musical style and performance practice; and the provision of recital, operatic, and concert performance opportunities designed to emulate a professional environment.

**Job Prospects:** The program prepares musicians for either professional activity or doctoral study.
Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer’s website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

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Fall: November 15

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into an applicant’s abilities, talents, and aptitude for graduate study.

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Bachelor’s Degree in Discipline/Related Discipline: A degree in Music is expected.

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- One recitative and aria from an opera.
- One recitative and aria from an oratorio.
- Four songs or arias selected one each from among the Baroque, Classical, Romantic, Impressionistic, or Contemporary periods. Each selection also must be in a different language (English, German, French, or Italian).

All selections should be memorized.

Note that video recordings alone are not acceptable for admission, except in the case of students living outside the United States. In this case, applicants must submit a video recording of complete works.


Interview: Applicants are interviewed by the department chair and Associate Dean at the time of the live audition.

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<tr>
<td>MUSC 9224</td>
<td>Voice Major/Doctoral</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 9234</td>
<td>Voice Major Doctorate</td>
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</tr>
<tr>
<td>MUSC 9251</td>
<td>Voice Pedagogy</td>
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</tr>
<tr>
<td>MUSC 9351</td>
<td>Performance Traditions</td>
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<tr>
<td>MUSC 9684</td>
<td>DMA Lecture-Recital</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 9784</td>
<td>DMA Performance with Orchestra</td>
<td>1</td>
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<tr>
<td></td>
<td>or MUSC 9884 DMA Major Opera Role</td>
<td></td>
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<tr>
<td>MUSC 9984</td>
<td>DMA Final Recital</td>
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<tr>
<td>MUST 9999</td>
<td>Monograph Research</td>
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<tr>
<td>MUST 9701</td>
<td>Doctoral Seminar Analysis, Interpretation,</td>
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<tr>
<td></td>
<td>and Performance</td>
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<td>Select 9 credits from the following:</td>
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<tr>
<td>MUSC 8245-</td>
<td>Vocal Literature course(s)</td>
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<tr>
<td>MUSC 9249</td>
<td></td>
<td></td>
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<tr>
<td>MUSC 9210</td>
<td>Special Topics in Voice</td>
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<tr>
<td>MUSC 9220</td>
<td>Special Topics in Voice</td>
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<tr>
<td>MUSC 9230</td>
<td>Special Topics in Voice</td>
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<td>MUSC 9240</td>
<td>Special Topics in Voice</td>
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<tr>
<td>MUSC 9250</td>
<td>Special Topics in Vocal Pedagogy</td>
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<tr>
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<td>MUSC 9262</td>
<td>Vocal Pedagogy II</td>
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<td>MUSC 9701</td>
<td>Doct Perf Practice I</td>
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<td>or MUSC 9702 Doct Perf Practice II</td>
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Select from courses at the level of MUSC 8404 or higher.

Recitals:

1. Solo public recital, no later than completion of MUSC 9234
2. Lecture Recital (MUSC 9684)
3. Performance with Orchestra (MUSC 9784) or Major Opera Role (MUSC 9884)
4. Final Doctoral Recital (MUSC 9984)

Language Examination: Candidates in the Voice Performance program are expected to successfully complete a translation examination, specified by the Department of Vocal Arts, in one foreign language: either French, German, Italian, or other national language with department permission. The examination must be completed before the preliminary examinations may be taken.

Additional Requirements:

All degree credits are to be earned at Temple University.

Written Entrance Examinations:

All doctoral students must take written entrance exams prior to or during the first term of doctoral study. Candidates who fail the entrance examinations the first time may, upon application to the Associate Dean for Graduate Studies of the Boyer College of Music and Dance, be permitted to take the examinations a second time. A third opportunity is not allowed.

To continue registration in the doctoral program beyond the second term of study, all portions of the examinations must be passed or the appropriate review courses (or the equivalent, as determined by the examining department) must be in progress. Students planning to take the written examinations should request a list of dates from the graduate secretary and submit a written request to the Associate Dean one month prior to the administration date.

1. Music History Exam: A general examination covering the history of music is administered. Questions relative to forms, styles, and periods of music are included. It is expected that all examinees are acquainted with the standard literature of music.
2. Harmony Exam: This exam involves completion of a harmonic excerpt in advanced chromatic idiom and the creation of a bass line with figuration (figured bass) in Baroque style.
3. Counterpoint Exam: From a given motive, approximately 20 measures of imitative counterpoint in three parts are to be completed.
4. Form and Analysis Exam: A score is provided at the examination that requires analysis of specified passages.
5. Literature and Pedagogy Exam: This examination focuses on the literature and pedagogy of the instrument of specialization.
6. Writing Sample: A 90-minute examination of the student’s ability to write at the doctoral level is conducted. Examination topics are of a general nature.

Diagnostic Recital:

A diagnostic recital is required and must be performed before a faculty jury at the conclusion of the first term of study. The candidate must contact her/his advisor to arrange the jury. The recital consists of a full program, approximately 25-30 minutes in length, and may include the performance (with music) of a new composition that is presented to the applicant for study 48 hours in advance of the jury. An analysis of repertoire and technical needs results.

Continuous Registration:

Continuous registration of at least 3 credits must be maintained each term, with the exception of Summer, from the time of acceptance into the D.M.A. program in Music Performance until the completion of all coursework.

Continuation in the D.M.A. Program:

Each course or seminar requires an end-of-term final grade based on papers prepared, recitals presented, discussion, and/or examinations taken during the course of the term. Each term of private study culminates in a performance examination or jury, except during terms in which the student has presented one of the required adjudicated recitals. Screening for continuance in the program after the first term of study is conducted at adjudicated recitals, end-of-the-term juries, and major
examinations. This ensures that only the most qualified students continue beyond the early stages of the program.

For all doctoral programs, only grades from “A” to “B-” can be applied toward degree requirements. Grades of less than “B-” cannot be counted toward the degree. If the student earns a grade of less than “B-” s/he may, with permission of the department chair and the Associate Dean, take the term of study one additional time. The same applies to recitals.

Professional Development Policy:
In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:
1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.
2. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

Independent Study Courses:
Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students’ major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:
All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:
Weekly one-hour private lessons are provided for all matriculated master’s and doctoral performance majors in good standing, provided at least three additional credits of programatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

The four terms of private lessons must be taken consecutively, with the exception of summers. Any deviation from this must have the approval of the advisor, department chair, and the Associate Dean of the Boyer College of Music and Dance. Graduate assistantships and other forms of University-sponsored financial aid do not cover private lesson and recital extension fees.

Written Preliminary Examinations:
The written preliminary examinations may be taken during the final term of coursework, but no later than in the term after completion of coursework. They are administered several times each calendar year, and span two consecutive days of six hours of examination each day. Written and performance examinations should be taken no later than the end of the fifth year to allow for the successful completion of the Final Recital and the writing of the monograph. Preliminary examinations must be successfully completed before formal work on the monograph may be undertaken and before the Final Recital may be presented.

Students planning to take the written examinations should request a list of dates from the graduate secretary and submit a written request to the Associate Dean one month prior to the administration date. Students are then notified in writing of the specific dates and administration times of the preliminary examinations for which they have been scheduled.

The examinations consist of questions relating to the major and minor areas and to musical style; require the student to comment articulately on the style and historical significance of musical compositions; and entail the student discussing and defending the principles of performance on the basis of which s/he would undertake to perform any composition in her/his major area. The questions are prepared by faculty members within the student's major and minor subject areas. At least two graduate faculty members read each section of the written preliminary examinations. Students typically are graded "Pass" or "Fail" based on a consensus of the examination readers.

Oral Preliminary Examinations:
For those students who pass the written preliminary examinations, no oral preliminary examination is required. (This refers only to the oral preliminary examination and does not refer in any way to the oral defense of the dissertation/monograph.)

If a student fails one or more portions of the written preliminary examination, an oral examination is administered by the major advisor and a minimum of two additional faculty members. In the case of failure in one subject area, two members of that department are asked by the student's major advisor to participate with the major advisor in the examination. In the case of failure in more than one subject area, at least one faculty member from each of the departments in which the failure occurred is asked by the student's major advisor to participate in the examination.

The examination is to be a formal oral examination rather than an informal meeting with graduate faculty from departments in which the examination revealed that the student needs further work. This does not preclude such informal meetings, however, in preparation for the oral examination. Upon passing the oral examination, the student, as advised by the examining committee, is permitted to schedule a second and final attempt at the failed portions of the written examination.

Final Recital and Monograph Proposal:
After the successful completion of the written preliminary examinations, MUSC 9984 DMA Final Recital and written monograph are undertaken in consultation with the major advisor, the department chair, and the Doctoral Advisory Committee (DAC). The DAC shall be appointed by the Associate Dean to adjudicate the Final Recital and to guide the student in writing both the monograph proposal and the final document itself. When the student, in consultation with the major advisor and department chair, has identified a tentative advisory committee, the chair gives those names to the Associate Dean for consideration. The Associate Dean appoints the DAC. The DAC consists of no fewer than three persons: two faculty members from within the department, and a third person from outside the department. Members of the DAC serve as the adjudicators of the Final Recital.

After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers within 30 days one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School. Students register for MUSC 9998 during the writing of the monograph proposal and MUSC 9999 after the proposal has been officially approved. Doctoral candidates are required to register for a minimum of 6 credit hours of MUSC 9999 Monograph Research during their program as a whole and must register for a minimum of 1 such credit each term.

Recital Extension:

Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a "Credit/No Credit" basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of "CR." Credit derived from Recital Extension will not be counted toward degree requirements.

1. Recital Extension Fees: Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.

2. Exceptions to Recital Extension:
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.

3. Failure to Present Recital: The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

When the monograph is complete, the major advisor of the Doctoral Advisory Committee (DAC) asks the Associate Dean to appoint an outside reader. The DAC plus the outside reader constitute the Dissertation Examining Committee (DEC) for the monograph defense. Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary.

Doctoral candidates must submit a defense copy of the monograph to members of the DEC and the Associate Dean at least two weeks prior to the defense. Students should register for MUSC 9999 Monograph Research (1-6 credits) each term, Fall and Spring, until the final project has been successfully defended. Doctoral candidates are required to register for a minimum of 6 credit hours of MUSC 9999 during their program as a whole, but must register for a minimum of one such credit each term.

Incompletes:

All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:

Final Recital:

Students may present the DMA Final Recital (MUSC 9984) after the preliminary examination has been completed and the DAC has been appointed.

Proposal:

After a proposal for the monograph has been developed by the student in consultation with the DAC, the student prepares a final copy for approval. Each member of the DAC must sign the final proposal. Once all DAC members have signed the title page, the student copies the final proposal and delivers one copy to each member of the DAC, the department chair, the Associate Dean, and the Graduate School.

Monograph:

Early in the term in which a defense of the monograph is anticipated, the major advisor notifies the Associate Dean that it is time to appoint the Dissertation Examining Committee (DEC). The DEC consists of the DAC plus an "outside" reader, who is an additional graduate faculty member from Temple or another university, but not from the faculty of the student's home department.

Doctoral candidates must schedule a defense of the monograph with the Associate Dean at least one month before the requested defense date. Forms to schedule the defense are available from the graduate secretary.

This includes the "Announcement of Oral Defense" form, which must bear all appropriate signatures and be submitted to the Associate Dean.

Two weeks prior to the oral defense, the student submits individual copies of the abstract and the completed dissertation/monograph to the Associate Dean and each member of the DEC. The graduate secretary notifies the Graduate School and posts notices of the impending defense on bulletin boards located within the Boyer College of Music and Dance. All members of the DEC attend the oral defense and then vote to pass or fail the monograph and its defense after the conclusion of the public presentation.

Changes in membership of a DAC or a DEC must be approved by the Associate Dean. The change also must be communicated to the Graduate School.

Final Oral Examination:
Contacts

Department Web Address:
http://www.temple.edu/boyer/academicprograms/voice-opera/

Department Information:
Dept. of Vocal Arts
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
christine.anderson@temple.edu
215-204-8375

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Dr. Christine Anderson
christine.anderson@temple.edu
215-204-8375

Chairperson:
Dr. Paul Rardin
rardin@temple.edu
215-204-4742

Music Technology, M.S.
Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program
Over the past several decades, music technology has become a major factor in virtually every area of the music industry. Music technology fuses musical skill and technological knowledge that enables one trained in these areas to create works and/or pursue employment or graduate education in an extremely wide variety of areas. Some of these include music composition, editing and publishing, equipment installation, performance, production, recording and editing, software and hardware development, and systems design, as well as numerous audio fields such as the recording and editing of concerts, events, films and television, and games, among others.

The Master of Science in Music Technology program offers students holding a bachelor’s degree in music or its equivalent an opportunity to further advance their experience and understanding of music technology research and practice at the graduate level. Students prepare for professional work, as well as for the possibility of entrance into a doctoral program, through specialized research, creative work, and practical experience in the field.

Time Limit for Degree Completion: 6 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Accreditation: Plan Approval Accreditation has been granted by the National Association of Schools of Music (NASM).

Areas of Specialization: The program offers advanced study in music and music technology whereby students are encouraged to develop diverse abilities in the field, while allowing them also to focus on an area of expertise of their interest.

Job Prospects: Students are prepared for employment in numerous facets of the music industry, higher education teaching in music technology, or pursuit of further graduate education in music and/or technology. The U.S. Bureau of Labor Statistics Occupational Outlook Handbook shows continued strong demand for positions in the computer and computer music industry.

Non-Matriculated Student Policy: With permission from the Dean’s Office, individuals may be granted permission to enter the College as a non-matriculated student, taking up to 9 graduate credits (excluding private lessons) before applying for admission to a program.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer’s website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master’s students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines
The M.S. in Music Technology will first be offered in Fall 2019.

Application Deadline:
Fall: February 1

Decisions regarding admission are rendered after receipt of all required credentials. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant’s abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate
Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

**Bachelor’s Degree in Discipline/Related Discipline:** Entry to the program is contingent on completion of an undergraduate degree in music or its equivalent. Those not holding a bachelor’s degree in music who are admitted to the M.S. degree in Music Technology are assigned additional undergraduate deficiency coursework at the time of admission to bring the student to the level of holding an equivalent degree in music. Coursework is determined based on a thorough review of the undergraduate transcript and through Diagnostic Examinations required of all entering students seeking a master’s degree. Typically, applicants have an overall undergraduate GPA of at least 3.33 (B+).

**Statement of Goals:** Include your special interests within the discipline and expectations for the program.

**Standardized Test Scores:**
TOEFL: 79 iBT or 550 PBT minimum

**Resume:** Current resume required.

**Entrance Exam:** No audition is required for entry to the Music Technology M.S. program; however, admitted students are required to take the master’s Diagnostic Examinations prior to the first term of study. See the Program Requirements tab for details.

**Portfolio:** Applicants must demonstrate proficiency in music technology through submission of an entrance portfolio.

**Writing Sample:** A separate written document explaining the development and creation of the portfolio must be submitted.

**Transfer Credit:** A student who wishes to transfer credit should speak with her/his academic advisor and obtain a “Request for Transfer of Graduate Credit” form, found in TUportal under the Tools tab within “University Forms.” Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

**Other:** Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College’s Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

**Program Requirements**

**General Program Requirements:**

- **Number of Credits Required Beyond the Baccalaureate:** 31

**Required Courses:**

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<td>MUST 5728 or 8728</td>
<td>Advanced Audio Production</td>
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<tr>
<td>MUST 5773 or 8773</td>
<td>Digital Signal Processing for Music</td>
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<tr>
<td>MUST 8701</td>
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<td>Spring</td>
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<tr>
<td>MUST 5774 or 8774</td>
<td>Hearing Music: Acoustics and Psychoacoustics of Music</td>
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<td>MUST 5775 or 8775</td>
<td>Seminar in Audio Software Design</td>
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<td>New Music Seminar</td>
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1. This elective can be selected from among the graduate courses offered in Music or the various graduate courses available through other departments at Temple University.

**Language Examination:** A language examination is not required for the M.S. in Music Technology.

**Additional Requirements:**

**Diagnostic Examinations:**

All entering master’s students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a "Credit / No Credit" basis, and the official university transcript will indicate "CR" (for "Credit," meaning that the deficiency has been satisfied) or "NC" (for "No Credit," meaning that the deficiency has not been satisfied).
Students must have a "B-" or better average in any remedial course or section to earn the grade of "Credit" and to satisfy the requirement. Students who earn a grade of "NC" (that is, having a class average below "B-") must retake that course or section until an average of "B-" or higher is achieved and a grade of "CR" is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remediation coursework during their first academic year of study. An exception may be granted for part-time students. Master's students may neither schedule graduation recitals nor take final comprehensive master's examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

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<th>Code</th>
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<td>MUST 5003</td>
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<td>MUST 5004</td>
<td>Grad Aural Theory Review</td>
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B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
- received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

**Culminating Events:** Evidence of student learning is assessed through a combination of course-embedded assessments and projects, written examinations, and a capstone final project that demonstrates the application of integrated music technology.

**Contacts**

**Department Web Address:**
http://www.temple.edu/boyer/academicprograms/musicstudies/

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**Department Information:**
Dept. of Music Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
cynthia.folio@temple.edu
215-204-8316

**Submission Address for Application Materials:**
https://apply.temple.edu/Boyer/

**Department Contacts:**
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Program Coordinator:
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215-204-8316

**Music Theory, M.M.**

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

**About the Program**

The Master of Music in Music Theory provides a comprehensive collection of courses designed to develop skills in the areas of music theory research, music analysis, and musical composition.

**Time Limit for Degree Completion:** 6 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The degree program can be completed on a full- or part-time basis.

**Accreditation:** This degree program is accredited by the National Association of Schools of Music (NASM).

**Areas of Specialization:** The master's program in Music Theory is organized into a series of small seminars, with an emphasis on developing strong analytical skills and the application of music theory in the academic environment. The program's primary purpose is to prepare majors for further academic studies at the doctoral level.

**Job Prospects:** The program prepares students for various careers related to music, and for further academic and musical training at the doctoral level.

**Non-Matriculated Student Policy:** With permission from the Dean's Office, individuals may be granted permission to enter the College as
a non-matriculated student, taking up to 9 graduate credits (excluding private lessons) before applying for admission to a program.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:

Fall: January 7
Spring: November 1

Decisions regarding admission are rendered after receipt of all required credentials. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

Bachelor's Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:

TOEFL: 79 iBT or 550 PBT minimum

Resume: Current resume required.

Writing Sample: An applicant must submit with the application for admission an undergraduate-level paper demonstrating her/his ability to do musical analysis and/or report research. The applicant must submit an assignment of:

- A compositional nature, such as counterpoint, a figured bass, a harmonized melody, an original composition, or the like; and
- An analytical nature, such as a formal analysis, a harmonic analysis, a pitch-class set analysis, or the like.

Transfer Credit: A student who wishes to transfer credit should speak with her/his academic advisor and obtain a "Request for Transfer of Graduate Credit" form, found in "University Forms." Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 32

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>MUST 8701</td>
<td>Research in Music</td>
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<tr>
<td>MUST 8713</td>
<td>Canon and Fugue</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8742</td>
<td>Seminar in Theoretical Analysis (Post-Tonal Music)</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8742</td>
<td>Seminar in Theoretical Analysis (Schenkerian Analysis)</td>
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</tr>
<tr>
<td>MUST 8749</td>
<td>Current Topics in Musicology and Theory</td>
<td>3</td>
</tr>
<tr>
<td>MUST 9996</td>
<td>Final Written Project: Music Theory (2 terms)</td>
<td>2</td>
</tr>
</tbody>
</table>

Electives 1 12

Total Credit Hours 32

1 Select from Music, Music Education, Music Studies, and other graduate departments, depending on the research interests of the student. One graduate course in Music History is strongly recommended. Advisor approval required.

Language Examination: Students must pass an exam in a foreign language. French and German are strongly recommended, but a different language is possible with approval of the division coordinator. The exam is waived for students who had 2 years of a foreign language as an undergraduate, or for students who reached the final term of a foreign language as an undergraduate.

Additional Requirements:

All degree credits are to be earned at Temple University.

Diagnostic Examinations:
All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a "Credit / No Credit" basis, and the official university transcript will indicate "CR" (for "Credit," meaning that the deficiency has been satisfied) or "NC" (for "No Credit," meaning that the deficiency has not been satisfied). Students must have a "B-" or better average in any remedial course or section to earn the grade of "Credit" and to satisfy the requirement. Students who earn a grade of "NC" (that is, having a class average below "B-") must retake that course or section until an average of "B-" or higher is achieved and a grade of "CR" is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remediation coursework during their first academic year of study. An exception may be granted for part-time masters. Master of Music students may neither schedule graduation recitals nor take final comprehensive master's examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

<table>
<thead>
<tr>
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<th>Title</th>
<th>Credit Hours</th>
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<tr>
<td>MUST 5001</td>
<td>Diatonic Harm. Review</td>
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<tr>
<td>MUST 5002</td>
<td>Chromatic Harm. Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5003</td>
<td>Counterpoint Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5004</td>
<td>Grad Aural Theory Review</td>
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</tr>
</tbody>
</table>

B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
- received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

Keyboard Examination:

This exam is scheduled by the student with a member of the Music Theory faculty. Although it can be scheduled at any time, the student is strongly encouraged to complete the exam in the first year of study. Students prepare the following:

1. Score reading of the exposition of the first movement of an 18th-century symphony.
2. A simple lied accompaniment.
3. A Bach chorale.
4. A figured bass.

Professional Development Policy:

In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Independent Study Courses:

Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:

All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Applied Music Study:

1. Graduate students in non-performing curricula may take up to 6 credits of applied study toward the degree with the permission of the major advisor. Such non-required lessons may be taken only if the student can pass the normal graduate-level performing audition
expected of performance majors. In this event, a fee of $200, not covered by tuition remission, is charged.

2. Regardless of major, graduate students with a demonstrable performing proficiency that may not meet the more rigorous requirements of a graduate-level audition may, by audition, qualify to take 2 credits of applied study per term for graduate credit. These courses carry a fee of $400 plus tuition and may be applied to the non-performing curriculum for degree credit. Up to 6 credits may be taken with the approval of the major advisor.

3. Graduate assistantships and other forms of University-sponsored financial aid do not cover private lesson or Recital Extension fees.

Incompletes:
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:
Comprehensive Examination:
This three-hour written examination includes two lists: one of terms to identify, and the second of music theorists to describe and explain. The examination also requires short essay answers about current theory and an analysis of a work provided. Students should contact the Associate Dean of the Boyer College of Music and Dance in writing at least one month before the scheduled date of the examination. This exam is generally given in the first week of April. Scheduled by Assistant Dean David Brown, the exam is graded by two members of the department's graduate faculty.

Final Written Project:
Music Theory majors write a final written project (MUST 9996 Final Written Project: Music Theory) -- not a thesis -- that is 30-40 pages in length. Students choose an advisor, who approves the topic of the project in Music Theory. Students are strongly encouraged to begin their final project no later than the beginning of the second year of study and complete the project in their final term of study. The completed final project must be approved by the advisor and a second reader, generally a faculty member in Music Studies.

Contacts
Department Web Address:
http://www.temple.edu/boyer/academicprograms/musicstudies/

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Department Contacts:
Admissions:
James Short
jshort@temple.edu

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Program Coordinator:
Dr. Cynthia Folio
cynthia.folio@temple.edu
215-204-8316

Chairperson:
Dr. Cynthia Folio
cynthia.folio@temple.edu
215-204-8316

Music Therapy, M.M.T.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program
The M.M.T. degree program in Music Therapy is designed to provide professional music therapists with advanced clinical training, supported by studies in research, theory, and ethics. The curriculum focuses on two areas: Music Medicine and Music Psychotherapy. A broad range of clinical populations, orientations, practices, and research paradigms is presented, and opportunities for self-directed learning are provided through independent study projects. Emphasis is given to integrating professional and personal development through self-experiences in Music Therapy. The program in Music Therapy is led by four world-renowned music therapists.

Time Limit for Degree Completion: 6 years

Campus Location: Main, although students may fulfill some credits at TUCC and through online classes.

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Accreditation: The degree program is accredited by the National Association of Schools of Music (NASM) and approved by the American Music Therapy Association (AMTA).

Areas of Specialization: The M.M.T. in Music Therapy provides two tracks of advanced study, with a variety of course offerings in each track:

- The Music Psychotherapy Track provides didactic and experiential training in how music and the client-therapist relationship are used to facilitate mind-body communication and health.
- The Music Medicine Track provides didactic and experiential training in how music and the client-therapist relationship are used to promote emotional and interpersonal growth.

Coursework is designed to give students in-depth knowledge of creative, receptive, recreative, and verbal methods of Music Therapy; the ability to utilize and integrate these methods within medical and psychotherapeutic settings and with a broad range of clientele; the ability to apply theory and research to practice; and an understanding of ethical issues in practice and research. In order to relate theory, research, and practice, all courses involve extensive readings along with experiential training in their clinical applications. Additional requirements are a final project and courses on both quantitative and qualitative approaches to research. The experiential components of the program are designed to sensitize students to the effects of their own personality on the client, the music, and the therapy process, while also identifying ethical issues indigenous to music therapy.
practice. Various theoretical orientations are presented for medical and psychotherapeutic areas of practice.

Job Prospects: Graduates typically find employment in a variety of areas, including community mental health agencies, day care facilities, educational institutions, general and psychiatric hospitals, nursing homes, rehabilitation centers, and in private practice. Graduates may combine clinical work with research in the above areas of practice. The program also provides preparation for doctoral study in Music Therapy and related disciplines.

Licensure: Students may opt to take additional coursework that may meet licensure requirements in one or more states.

Non-Matriculated Student Policy: Professionals who wish to enroll in specific courses for continuing education may take courses with departmental approval. The Graduate School permits up to 9 credits of graduate coursework taken at Temple University as a non-matriculated student to be applied to a graduate degree.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) by March 1 to obtain priority consideration for an award. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:

Fall: February 1

Applications are processed as they arrive up to the deadline date.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: Three admission options are open to those seeking the M.M.T. degree:

1. Master of Music Therapy, which is the option available to an applicant who has completed a bachelor's degree in Music Therapy and is certified to practice Music Therapy. Applicants for the M.M.T. degree are expected to demonstrate the musicianship, self-awareness, and interpersonal skills needed for in-depth clinical work.

2. Music Therapy/Combined Master's Equivalency Program, which is the option available to an applicant who has a bachelor's degree in Music, but is not certified in Music Therapy and must complete Music Therapy core courses. This program integrates core courses in Music Therapy required for entry-level certification with the master's program.

3. Bachelor of Music in Music Therapy, which is the option available to an applicant who holds an undergraduate degree outside of Music or who does not have at least 60 undergraduate credits in Music or its equivalent. The bachelor's degree must be earned prior to applying for the M.M.T.

In addition, the Master of Music Therapy – Licensed Professional Counselor (LPC) Program is available to both M.M.T. students and Master's Equivalency students who want to complete the additional coursework needed to satisfy the Pennsylvania requirements for licensure.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree in Music Therapy, Music Education, Music History, Music Performance, or Music Theory is required.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:

TOEFL: 100 IBT or 600 PBT minimum

Audition: Applicants must submit a video-recorded audition consisting of two pieces in different styles in the applicant's major performance medium (with accompanist when needed) and three standard or popular songs sung and played by the applicant on piano and/or guitar from American children, geriatric, adult, or adolescent repertoire. More information on the audition procedure can be found by visiting www.temple.edu/boyer.

Resume: Current resume required.

Transfer Credit: A student who wishes to transfer credit should speak with her/his academic advisor and download and complete a "Request for Transfer of Graduate Credit" form, found in TUporal under the Tools tab within "University Forms." Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:

Number of Didactic Credits Required Beyond the Baccalaureate: 36 for the M.M.T.; 63 for the Music Therapy/Combined Master's Equivalency Program; 12 to add the Licensed Professional Counselor option.
Required Courses:

### Master of Music Therapy

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
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<td>MUED 8601</td>
<td>Qualitative Research in Music Therapy</td>
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<td>MUED 8602</td>
<td>Quantitative Research in Music Therapy</td>
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</tr>
<tr>
<td>MUED 8603</td>
<td>Theories of Music Psychotherapy</td>
<td>2</td>
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<td>MUED 8615</td>
<td>Adv Mus Thrpy Clin Trng</td>
<td>1</td>
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<tr>
<td>MUED 8617</td>
<td>Multicultural Music Therapy</td>
<td>2</td>
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<tr>
<td>MUED 8618</td>
<td>Music in Medicine</td>
<td>2</td>
</tr>
<tr>
<td>MUED 8621</td>
<td>Music Therapy Ethics</td>
<td>2</td>
</tr>
<tr>
<td>MUED 8626</td>
<td>Models of Clinical Supervision in Music Therapy</td>
<td>2</td>
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<tr>
<td>MUED 9687</td>
<td>Advanced Music Therapy Practicum</td>
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<tr>
<td>MUED 9995</td>
<td>Master's Final Project</td>
<td>3</td>
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</tbody>
</table>

**Electives**

Recommended courses include:

- MUED 8611 Music Therapy Research
- MUED 8612 Music Therapy Foundation
- MUED 9660 Advanced Topics in Music Psychotherapy
- MUED 9670 Advanced Topics in Music Medicine
- MUED 9680 Music Therapy: Special Topics

Total Credit Hours 36

1. Select from Music, Music Education, Music Studies, Music Therapy, and other graduate departments. Advisor approval required.

### Music Therapy/Combined Master's Equivalency Program

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<th>Code</th>
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<td>MUED 3689</td>
<td>Fieldwork in Music Therapy</td>
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<tr>
<td>MUED 3789</td>
<td>Fieldwork in Music Therapy II</td>
<td>2</td>
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<tr>
<td>MUED 3889</td>
<td>Fieldwork in Music Therapy III</td>
<td>2</td>
</tr>
<tr>
<td>MUED 4611</td>
<td>Music Therapy Overview</td>
<td>3</td>
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<tr>
<td>MUED 4614</td>
<td>Psychiatric Music Therapy</td>
<td>3</td>
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<tr>
<td>MUED 4616</td>
<td>Developmental Music Therapy</td>
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<tr>
<td>MUED 4619</td>
<td>Medical/Rehabilitative Music Therapy</td>
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<td>MUED 4641</td>
<td>Music Therapy Experiences I: Creative Methods</td>
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<td>MUED 4642</td>
<td>Music Therapy Experiences II: Recreative Methods</td>
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<td>Music Therapy Experiences III: Receptive Methods</td>
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<td>Theories of Music Psychotherapy</td>
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<td>MUED 8615</td>
<td>Adv Mus Thrpy Clin Trng</td>
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<td>Music in Medicine</td>
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<td>MUED 8621</td>
<td>Music Therapy Ethics</td>
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<tr>
<td>MUED 8626</td>
<td>Models of Clinical Supervision in Music Therapy</td>
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</table>

MUED 9995 Master's Final Project 3

Total Credit Hours 63

1. Select from Music, Music Education, Music Studies, Music Therapy, and other graduate departments. Advisor approval required.

### Master of Music Therapy - Licensed Professional Counselor Program

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<tr>
<td>CPSY 5593</td>
<td>Career Counseling and Development</td>
<td>3</td>
</tr>
<tr>
<td>CPSY 5694</td>
<td>Introduction to Assessment</td>
<td>3</td>
</tr>
<tr>
<td>EPSY 5541</td>
<td>Concepts in Human Development</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours 12

### Additional Requirements:

**Diagnostic Examination:**

The Diagnostic Examination in Voice, Piano, and Guitar is required for all students entering the master’s degree program in Music Therapy. The examination covers two broad areas of competence:

1. the ability to sing and play a large repertoire of songs from the standard, popular, traditional, folk, rock, or country literature; and
2. the ability to sight-sing and sight-harmonize songs from a fake book.

For the examination, students bring a list of at least 12 songs that they are prepared to sing and play. The examiners then select one or more songs to be sung and played on the piano, and one or more to be sung and played on the guitar. In the next portion of the examination, students are asked to sight-sing and sight-harmonize tunes from a fake book, using piano and guitar as accompaniments.

If a student has not studied voice, piano, and/or guitar, or if the student is not prepared to play popular music or use a fake book, s/he may waive any or all portions of the examination and opt to take the appropriate remedial course(s). This is not unusual. Most students entering the program need instruction or practice in one or more of these areas. Students are therefore encouraged to view this as merely a placement examination. Depending on each student’s background and competence, as demonstrated on the examination, students may be placed in the following remedial courses for 1 credit each:

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<th>Title</th>
<th>Credit Hours</th>
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<td>MUSC 1211</td>
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<tr>
<td>MUSC 1212</td>
<td>Voice Class</td>
<td>1</td>
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<tr>
<td>MUED 3631</td>
<td>Functional Voice I</td>
<td>1</td>
</tr>
<tr>
<td>MUED 3632</td>
<td>Functional Voice II</td>
<td>1</td>
</tr>
<tr>
<td>MUST 2105</td>
<td>Jazz Secondary Piano</td>
<td>1</td>
</tr>
<tr>
<td>MUST 2106</td>
<td>Jazz Secondary Piano</td>
<td>1</td>
</tr>
</tbody>
</table>
Curriculum be taken as independent study. Private lessons beyond those and musical record provides substantial support for the benefits of this independent study projects is granted only for students whose academic description of the intended independent study project. Approval of Dean. Approval is granted only after the student has presented a detailed students to work in a highly individualized setting with one or more faculty other academic activities.

Independent Study Courses:
In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Independent Study Courses:
Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval is granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects is granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:
All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Applied Music Study:
1. Graduate students in non-performing curricula may take up to 6 credits of applied study toward the degree with the permission of the major advisor. Such non-required lessons may be taken only if the student can pass the normal graduate-level performing audition expected of performance majors. In this event, a fee of $200, not covered by tuition remission, is charged.
2. Regardless of major, graduate students with a demonstrable performing proficiency that may not meet the more rigorous requirements of a graduate-level audition may, by audition, qualify to take 2 credits of applied study per term for graduate credit. These courses carry a fee of $400 plus tuition and may be applied to the non-performing curriculum for degree credit. Up to 6 credits may be taken with the approval of the major advisor.
3. Graduate assistantships and other forms of University-sponsored financial aid do not cover private lesson or Recital Extension fees.

Incompletes:
All incomplete grades must be fulfilled within one year.

Culminating Events:
Comprehensive Examination:
Upon completion of the final projects and with permission of the Program Coordinator, the student may request permission to take the written qualifying examination. Students should contact the Program Coordinator regarding administration dates of the comprehensive examination.

The written qualifying examination in Music Therapy does not limit its scope to the coursework taken at Boyer College of Music and Dance. Instead, the student is expected to study comprehensively in preparation for this examination. The written qualifying examination in Music Therapy covers:
1. Basic methods and techniques of Music Therapy.
3. Various client populations.
4. Various theoretical approaches to individual and group therapy.
5. Existing research literature and research approaches.
6. Professional ethics.

Final Project:
As part of the Music Therapy curriculum, students undertake a final project that encompasses a pilot research study.

Contacts
Department Web Address:
http://www.temple.edu/boyer/academicprograms/music-therapy/
Department Information:
Dept. of Music Education and Therapy
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
darlene.brooks@temple.edu
215-204-8301

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Dr. Darlene M. Brooks
darlene.brooks@temple.edu
215-204-8301

Chairperson:
Dr. Rollo Dilworth
radclef@temple.edu
215-204-8317

Music Therapy, Ph.D.
Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program
The Ph.D. program at Temple University is a true Ph.D. in Music Therapy. Rather than having music therapy as a minor or elective track within another field, or as merely the main topic for the dissertation, the program has Music Therapy as the major area of study with its own core curriculum of advanced Music Therapy courses, supported by studies in research, music, and related health disciplines. The goal is to prepare skilled and experienced clinicians to become competent scholars who will make significant contributions to research and theory in the field. It prepares individuals to conduct research and develop theory, with opportunities to study both quantitative and qualitative research paradigms. It also allows for the development of expertise and skill in college-teaching and clinical supervision. The program has undergone extensive review and has been granted plan approval by the National Association of Schools of Music (NASM). It is the first of its kind in the United States. The program in Music Therapy is led by four world-renowned music therapists.

Time Limit for Degree Completion: 7 years

Campus Location: Main, Center City

Full-Time/Part-Time Status: The degree program on a full- or part-time basis.

Accreditation: The program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: The Ph.D. program in Music Therapy offers the opportunity for further development of clinical expertise in two advanced areas of practice: Music Medicine and Music Psychotherapy. The program allows for the acquisition of expertise in an area of specialization within the two areas of practice (e.g., a particular client population, methodology, or research paradigm).

Job Prospects: Graduates typically find employment as professors in colleges and universities, and as practitioners, supervisors, or researchers in a variety of health care settings.

Licensure: Students may opt to take additional coursework that may meet licensure requirements in one or more states.

Non-Matriculated Student Policy: The core doctoral courses are not open to non-matriculated students.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines
Application Deadline:
Fall: February 1

Letters of Reference:
Number Required: 2
From Whom: Letters of recommendation should be obtained from academic advisors, professors, or professional supervisors who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: Applicants who have not completed the following courses before matriculation must complete them while a doctoral student:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>MUED 8601</td>
<td>Qualitative Research in Music Therapy</td>
<td>3</td>
</tr>
<tr>
<td>MUED 8602</td>
<td>Quantitative Research in Music Therapy</td>
<td>3</td>
</tr>
<tr>
<td>MUED 8603</td>
<td>Theories of Music Psychotherapy</td>
<td>2</td>
</tr>
</tbody>
</table>
Music in Medicine

Res Mus Psychotherapy

Theory Development in Music Therapy

Music Therapy Ethics

Resume:

Applicants submit a recorded audition. If preliminary approval is granted, an in-person live audition is arranged. Audition repertoire requirements include:

• Two major works in a major performance medium.
• Two standard or popular songs sung with own piano accompaniment.
• Two standard or popular songs sung with own guitar accompaniment.
• Sight-sing and sight-harmonize tunes from a fake book, using both piano and guitar for accompaniment, and sight-read simple piano pieces.

Note that video recordings alone are not acceptable for admission, except in the case of students living outside the United States. In this case, applicants must submit a video recording of complete works.

Writing Sample: A clinical, theoretical, or research paper in Music Therapy must be uploaded to Acceptd (https://app.getacceptd.com/templeboyer).

Interview: After all application materials have been received, an interview is scheduled with the applicant by the Program Coordinator. (Please allow at least three weeks after submission.) The interview may occur at the time of the in-person audition or may be scheduled after the applicant has submitted a recorded audition.

Resume: Current resume required.

Writing Examination: An on-site Writing Examination is required as part of the doctoral admissions process. Remedial coursework may be required.

Test Waiver: A completed M.M.T. degree from Temple may warrant a waiver.

Advanced Standing: Advanced standing is awarded upon admission, after review of transcripts by the Doctoral Coordinator. Students may transfer into the doctoral program up to 12 additional graduate credits in coursework taken beyond the master's degree. Typically, this coursework is undertaken after admission and must be approved by the major advisor and the Associate Dean. The maximum number of advanced standing credits awarded is 36.

Additional Requirements: The successful applicant must:

1. Hold professional certification in Music Therapy.
2. Have at least five years of full-time clinical experience as a professional music therapist (or its equivalent).
3. Have earned a master's degree in Music Therapy or related area or satisfactorily completed 18 graduate credits in Music.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Master's: 44

Required Courses:

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>MUED 8622</td>
<td>Res Mus Psychotherapy</td>
<td>3</td>
</tr>
<tr>
<td>MUED 8624</td>
<td>Research in Music Medicine</td>
<td>3</td>
</tr>
<tr>
<td>MUED 9611</td>
<td>Theory Development in Music Therapy</td>
<td>3</td>
</tr>
<tr>
<td>MUED 9641</td>
<td>Music Therapy Doctoral Seminar</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives

Music, Music Therapy, and/or Non-Music Courses
Research, including 6 credits in Statistics
Non-Didactic Courses

MuED 9999 Doctoral Dissertation

Total Credit Hours 44

1 Advisor approval required.

Additional Requirements:

All degree credits are to be earned at Temple University.

Grading:
For doctoral degrees, only grades of "B-" and higher may be counted toward degree requirements.

Tuition and Fee Payments:
All tuition and fees must be paid according to the deadlines given by the Bursar's Office at the time of registration. This means that all payments must be received prior to the first day of the term in which the course is
offered—not prior to the first day of the course, which in Music Therapy may be very late in the term. When payments are not received by the University deadlines for each term, registrations are automatically canceled, and late fees are imposed for reregistration. Often students do not receive written notification of this until well into the term. Students are encouraged to be punctual in meeting all registration deadlines, as failure to do so is very costly—in time, effort, and money.

**Professional Development Policy:**
In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

**Acceptable English:**
All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

**Applied Music Study:**

1. Graduate students in non-performing curricula may take up to 6 credits of applied study toward the degree with the permission of the major advisor. Such non-required lessons may be taken only if the student can pass the normal graduate-level performing audition expected of performance majors. In this event, a fee of $200, not covered by tuition remission, is charged.

2. Regardless of major, graduate students with a demonstrable performing proficiency that may not meet the more rigorous requirements of a graduate-level audition may, by audition, qualify to take 2 credits of applied study per term for graduate credit. These courses carry a fee of $400 plus tuition and may be applied to the non-performing curriculum for degree credit. Up to 6 credits may be taken with the approval of the major advisor.

3. Graduate assistantships and other forms of University-sponsored financial aid do not cover private lesson or Recital Extension fees.

**Incompletes:**
All incomplete grades must be fulfilled by the first day of the month in which the student expects to graduate.

**Culminating Events:**

**Preliminary Examination:**
The preliminary examination is designed to test the student's knowledge of the literature; research competence in both quantitative and qualitative paradigms; ability to integrate theory, research, and practice; ability to contextualize one's own work within the field; ability to project solutions to disciplinary and professional issues; and ability to synthesize and evaluate one's own learning. It has two components: scholarly projects and the oral defense.

1. Scholarly projects originate from specific assignments given in required doctoral courses and, depending on the project, may be completed with additional faculty supervision through other elective courses (e.g., research apprenticeship). Ultimately, the project must go significantly beyond any course assignment, and it may not duplicate any previous projects completed by the student outside of the degree program. At least three Music Therapy faculty independently grade each preliminary examination project using a 5-point rating scale. A passing average grade for each question is 3.

2. The oral defense covers any of the topics addressed in the written projects. The oral examiners are the same Music Therapy faculty members who scored the scholarly projects. Upon completion of the oral defense, the examining committee determines whether the student passed or failed. If any portion is failed, the committee specifies in writing whether permission is granted to retake various portions of the examination, and the conditions under which such permission is granted. Students are given only one opportunity to retake the examination or portion thereof. Students should contact the Doctoral Coordinator of the Music Therapy Ph.D. program for more details regarding the nature of the examination questions.

Upon completion of 30 credits, the student requests permission from the Doctoral Coordinator to take the examination. Upon consultation with the Music Therapy faculty, the Doctoral Coordinator schedules the exam. The oral part can be scheduled three weeks after the student submits the written part.

**Proposal:**
The proposal must include the student's background and experience with the research topic; an articulate and comprehensive review of the literature; a clear statement of the research problem and questions to be answered; and a proposed methodology. Upon approval of a Doctoral Advisory Committee, the student works with the major advisor to prepare the proposal. In the process, the student consults other members of the committee. Each member of the Doctoral Advisory Committee must approve and sign the final proposal. Once all members have signed the title page, the student copies the final proposal and delivers within 30 days one copy to each member of the Doctoral Advisory Committee, the department chair, the Associate Dean, and the Graduate School. The dissertation proposal must be approved before the student may register for MUED 9999 Doctoral Dissertation.

**Dissertation:**
The purpose of the dissertation is to contribute new knowledge or insight to any aspect of Music Therapy. The dissertation is overseen by the Doctoral Advisory Committee, which consists of at least three members, two from the department and one from outside the department. The committee works together to guide the student toward completion of dissertation research, with the chair coordinating these efforts. In addition to the Doctoral Advisory Committee, one or two graduate faculty may serve as examiners for the defense. These examiners are expected to read and evaluate the student's dissertation and, with the Doctoral Advisory Committee, determine whether it is acceptable, needs revision, or is unacceptable. The dissertation must meet the various expectations of quality from each member of the Doctoral Advisory Committee. A major criterion shall be whether the student has demonstrated scholastic excellence in carrying out the research project as proposed.

The Doctoral Advisory Committee determines when the dissertation is ready for defense. Upon obtaining approval to defend, the major advisor asks the Associate Dean to assign outside readers. The advisor makes all the necessary arrangements for scheduling the defense. The "Announcement of Oral Defense" form bearing signatures of all of the Dissertation Examining Committee members must be submitted to the Associate Dean at least one month prior to the requested defense date.
Upon receiving approval to defend, the Associate Dean announces the dissertation defense to the academic community.

To make a change in a committee, the student petitions the Doctoral Coordinator of the program or the Associate Dean. Upon appropriate consultation with all parties pertinent to the petition, the Associate Dean makes the final determination. The change also must be communicated to the Graduate School.

Contacts

Department Web Address:
http://www.temple.edu/boyer/academicprograms/music-therapy/

Department Information:
Dept. of Music Education and Therapy
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
darlene.brooks@temple.edu
215-204-8301

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Dr. Darlene M. Brooks
darlene.brooks@temple.edu
215-204-8301

Chairperson:
Dr. Rollo Dilworth
radclef@temple.edu
215-204-8317

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: With the approval of the major advisor, students may elect to take up to 6 graduate credits outside the field of music.

Accreditation: This degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: The program prepares students through a systematic approach to vocal technique, specialized studies in operatic literature, the refinement of language and diction skills, the development of acting techniques, the continued refinement of musical and theoretical skills, advanced study in musical style and performance practice, and the provision of operatic performance opportunities designed to emulate a professional environment.

Job Prospects: Graduates work throughout the world performing in opera houses, singing as soloists, and teaching in colleges and universities as well as in private studies.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid page of Boyer’s website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master’s students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:
Fall: February 1; December 15 international
Spring: September 15; August 1 international

Applications are processed as they arrive up to the deadline date.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into an applicant’s abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate
Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

**Bachelor's Degree in Discipline/Related Discipline:** A degree in Music is expected.

**Statement of Goals:** Include your special interests within the discipline and expectations for the program.

**Standardized Test Scores:**
- TOEFL: 75 iBT or 537 PBT minimum

**Audition:** See www.temple.edu/boyer for audition repertoire requirements.

**Resume:** Current resume required.

**Transfer Credit:** A student who wishes to transfer credit should speak with her/his academic advisor and obtain a “Request for Transfer of Graduate Credit” form, found in TUPortal under the Tools tab within “University Forms.” Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

**Other:** Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College’s Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

**Program Requirements**

**General Program Requirements:**

**Number of Didactic Credits Required Beyond the Baccalaureate:** 32

**Required Courses:**

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<tr>
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<td>MUSC 8213</td>
<td>Opera Diction</td>
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<tr>
<td>MUSC 8216</td>
<td>Aria Repertoire</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 8220</td>
<td>Opera Workshop (4 terms)</td>
<td>8</td>
</tr>
<tr>
<td>MUSC 8234</td>
<td>Opera Major</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 8244</td>
<td>Opera Major</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 8254</td>
<td>Opera Major</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 8264</td>
<td>Opera Major</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 8274</td>
<td>Opera Role Performance</td>
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<tr>
<td>MUST 8701</td>
<td>Research in Music</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8708</td>
<td>History of Opera</td>
<td>2</td>
</tr>
<tr>
<td>MUST 8709</td>
<td>History of Opera</td>
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</table>

**Electives**  

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<th>Credit Hours</th>
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<td>4</td>
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1  A maximum of one term of vocal coaching may be taken.

**Language Examination:** Candidates in Opera must present undergraduate coursework in French, German, and Italian languages (or pass a translating and speaking examination at Temple) at the time of admission to the program. Where the transcript or pass-off examination does not reveal such study, the appropriate deficiency course(s) must be taken prior to completion of the master’s degree.

**Additional Requirements:**

**Diagnostic Examinations:**

All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a “Credit / No Credit” basis, and the official university transcript will indicate “CR” (for “Credit,” meaning that the deficiency has been satisfied) or “NC” (for “No Credit,” meaning that the deficiency has not been satisfied). Students must have a “B-” or better average in any remedial course or section to earn the grade of “Credit” and to satisfy the requirement. Students who earn a grade of “NC” (that is, having a class average below “B-“) must retake that course or section until an average of “B-” or higher is achieved and a grade of “CR” is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remediation coursework during their first academic year of study. An exception may be granted for part-time students. Master of Music students may neither schedule graduation recitals nor take final comprehensive master’s examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

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<th>Credit Hours</th>
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<td>MUST 5001</td>
<td>Diatonic Harm. Review</td>
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<td>MUST 5002</td>
<td>Chromatic Harm. Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5003</td>
<td>Counterpoint Review</td>
<td>1</td>
</tr>
</tbody>
</table>
B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections is enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
- received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

Piano Proficiency:

In addition to the written Diagnostic Examinations required upon entrance to the program, Opera majors take a functional piano examination encompassing the following points:

1. playing a prepared accompaniment (music can be used);
2. sight-reading a simple accompaniment; and
3. improvising an accompaniment to a simple melody.

Remedial coursework may be required.

Professional Development Policy:

In addition to the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:

1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of academic terms. Students must arrange their schedules to accommodate this requirement.
2. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

Independent Study Courses:

Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:

All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:

Weekly one-hour private lessons are provided for all matriculated master's and doctoral performance majors in good standing, provided at least three additional credits of programmatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

Private applied lessons beyond the four-term requirement currently in effect for graduate performance students may be extended with the permission of the jury, department chair, and the Associate Dean or Dean of the Boyer College of Music and Dance.

Incompletes:

All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:

Comprehensive Examination:

The Voice and Opera program requires a one-hour comprehensive examination in music literature and theory. When admitted to the College, a list of 100 musical works of the standard literature from the Middle Ages through the 20th century is made available to the student as an aid to prepare for the examination. This examination should be taken in the penultimate term of study.

The examination is in three parts: identification of specific selections from a list of 100 works, identification of a "mystery" selection, and score analysis. Two graduate faculty members grade the examination. Students must pass all three sections. A score of 70% or better must be achieved in the identification section, and a "pass" or "weak pass" must be achieved in the "mystery" selection and the score analysis section.

The examination is administered approximately ten times each year. Students notify the Assistant Dean no later than one week prior to the requested examination administration date. For examination dates, see the Graduate Music Examination Schedule (http://www.temple.edu/boyer/admissions/graduate-admissions/gradmusicexamschedule.asp).

Adjudicated Roles:

Opera majors must have accumulated at least two major adjudicated roles or one major and two minor adjudicated roles in addition to opera theater assignments. Fully-staged opera productions with orchestra are
typically presented each term. Opera roles are adjudicated by three full-time music faculty members.

Contacts

Department Web Address:
http://www.temple.edu/boyer/academicprograms/voice-opera/

Department Information:

Dept. of Vocal Arts
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
christine.anderson@temple.edu
215-204-8375

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:

Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Dr. Christine Anderson
christine.anderson@temple.edu
215-204-8375

Chairperson:
Dr. Paul Rardin
rardin@temple.edu
215-204-4742

Piano Pedagogy, M.M.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program

The master's degree in Piano Pedagogy expands the resources, skills, and insights of pianists who wish to be teachers, either in a private studio or at an institution, and who—in addition to having a comprehensive knowledge about teaching children and adults at an elementary level—are equipped to teach intermediate and early advanced students.

Time Limit for Degree Completion: 6 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Accreditation: This degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: While private lessons and ensemble participation are required each term, a major concentration of the curriculum is the study and practice of the teaching of the piano. Included in this concentration are coursework and fieldwork through the College's preparatory division.

Job Prospects: The program prepares musicians for teaching careers, professional activity, or doctoral study.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:
Fall: March 1
Spring: November 1

Applications are processed as they arrive. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

Bachelor's Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:
TOEFL: 79 iBT or 550 PBT minimum

Audition: See www.temple.edu/boyer for audition repertoire requirements.
Resume: Current resume required.

Transfer Credit: A student who wishes to transfer credit should speak with her/his academic advisor and obtain a “Request for Transfer of Graduate Credit” form, found in TUportal under the Tools tab within “University Forms.” Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:
Number of Didactic Credits Required Beyond the Baccalaureate: 30

Required Courses:

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<th>Title</th>
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<tr>
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<tr>
<td>MUSC 8014</td>
<td>Piano Major Concentration in Pedagogy</td>
<td>2</td>
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<tr>
<td>MUSC 8024</td>
<td>Piano Major Concentration in Pedagogy</td>
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<tr>
<td>MUSC 8084</td>
<td>Piano Major Concentration in Pedagogy (Recital)</td>
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<tr>
<td>MUSC 8461</td>
<td>Piano Pedagogy I</td>
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<td>MUSC 8462</td>
<td>Class Piano Pedagogy</td>
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</tr>
<tr>
<td>MUSC 8463</td>
<td>Class Piano Practice Teaching II</td>
<td>2</td>
</tr>
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<td>MUSC 8477</td>
<td>Baroque Keyboard Performance Practice</td>
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<td>MUST 8701</td>
<td>Research in Music</td>
<td>3</td>
</tr>
<tr>
<td>Electives 1</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

Total Credit Hours 30

1 Select from Music, Music Education, Music Studies, or other graduate departments. Advisor approval required.

Additional Requirements:

Diagnostic Examinations:
All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a “Credit / No Credit” basis, and the official university transcript will indicate “CR” (for “Credit,” meaning that the deficiency has been satisfied) or “NC” (for “No Credit,” meaning that the deficiency has not been satisfied). Students must have a “B-” or better average in any remedial course or section to earn the grade of “Credit” and to satisfy the requirement. Students who earn a grade of “NC” (that is, having a class average below “B-”) must retake that course or section until an average of “B-” or higher is achieved and a grade of “CR” is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remediation coursework during their first academic year of study. An exception may be granted for part-time students. Master of Music students may neither schedule graduation recitals nor take final comprehensive master’s examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>MUST 5001</td>
<td>Diatonic Harm. Review</td>
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</tr>
<tr>
<td>MUST 5002</td>
<td>Chromatic Harm. Review</td>
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<td>MUST 5003</td>
<td>Counterpoint Review</td>
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</tr>
<tr>
<td>MUST 5004</td>
<td>Grad Aural Theory Review</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
• received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

Professional Development Policy:
In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:
1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of academic terms. Students must arrange their schedules to accommodate this requirement.
2. Participation: Master's degree candidates in wind, brass, and percussion instruments must be available for ensemble assignments at the discretion of the department chair, including participation beyond curricular requirements.
3. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

Independent Study Courses:
Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:
All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standards exist to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:
Weekly one-hour private lessons are provided for all matriculated master's and doctoral performance majors in good standing, provided at least three additional credits of programmatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

Private applied lessons beyond the four-term requirement currently in effect for graduate performance students may be extended with the permission of the jury, department chair, and the Associate Dean or Dean of the Boyer College of Music and Dance.

Recital Extension:
Students withdrawing from the recital requirement during the recital term will receive an Incomplete and must register for extended study for non-degree credit (MUSC 5000 Recital Extension for 2 credits). Recital Extension must be taken each term until the recital has been presented. This course will be offered on a "Credit/No Credit" basis only. Upon satisfactory completion of the recital, the Incomplete for the recital course will be replaced by a letter grade and MUSC 5000 Recital Extension will be issued a grade of "CR." Credit derived from Recital Extension will not be counted toward degree requirements.

1. Recital Extension Fees: Tuition for these additional terms of private study will be the cost of 2 graduate credits plus a $400 Recital Extension fee. Graduate assistantships and other forms of University-sponsored financial aid do not cover the Recital Extension fee.
2. Exceptions to Recital Extension:
   a. Students who perform their recitals during the first three weeks of the Spring term are not required to register for Recital Extension that term.
   b. Students who register for Recital Extension during the Summer may perform their recitals during the first three weeks of the Fall term. However, if the student does not take Recital Extension during the Summer, s/he may not present the recital in the Fall term, regardless of the date, without also registering for the Fall term of Recital Extension.
3. Failure to Present Recital: The degree status of students who are unable to present a recital after one term of Recital Extension will be reviewed by the Associate Dean and the major advisor, who, in consultation with the major teacher and department, will determine whether or not the student may continue in the program. Inability to present the recital after one term of Recital Extension may be grounds for dismissal from the degree program for failing to maintain reasonable academic progress.

Incompletes:
All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:
Comprehensive Final Project:
All candidates for the Master of Music degree must submit a list of all repertoire studied with their studio teacher(s) while enrolled in the M.M. program. Students choose two stylistically contrasting pieces from their final recital program. (Students enrolled in programs without a recital requirement, such as Opera Coaching, choose two contrasting works studied with their assigned studio teacher.) Students choose to give either an oral presentation or submit a written document that addresses at least several of the following topics:

• Form and harmonic language of the piece
• Historical background of the work
• Aspects of the composer's style
• Relationship to other keyboard works by the composer
• Performance practice considerations
• Specific technical problems and their solutions
• Other relevant information about the piece

The goal of the presentation or paper is to demonstrate cumulative knowledge and skills gained during the course of study at the master's level. Courses taken in research, theory, history, pedagogy, and performance practice can inform the discussion of the particular works chosen by the student.

If the student selects the oral option, the presentation is scheduled during end-of-term juries. At least two representatives from the graduate faculty in the Department of Keyboard Instruction adjudicate the oral presentation. The session should last approximately 20 minutes with some extra time for questions from the faculty members following the presentation. Students can perform small sections of the work if germane to their discussion. Lecture notes with cited sources for information should be submitted to the Department of Keyboard Instruction no later than ten days before juries.

The written document, if chosen, should be a research-quality paper of approximately 10 pages, double-spaced, and include appropriate references. This should be submitted to the Department of Keyboard Instruction no later than April 1 for a May graduation or November 15 for a January graduation. At least two graduate faculty members from the Department of Keyboard Instruction read the paper and confer about the final decision. Students must follow the guidelines for academic honesty found in the Graduate Bulletin.

Each reader grades the project as either “pass” or “fail.” If the student fails, s/he is not allowed to graduate at the end of that term. Another document may be submitted after suggestions for improvement by the Department of Keyboard Studies faculty, or another oral presentation is arranged and graded as before. If the student fails a second time, s/he is dismissed from the degree program.

Public Recital:
Performance majors present a public recital as the culminating event for the master’s degree (MUSC 8984). Graduation recitals are typically one hour in length; presented on-campus in either Rock Hall or Klein Recital Hall; and adjudicated by three full-time music faculty members. The student must show evidence through Temple University transcript records of having taken private lessons up to the time of the graduation recital. Students who wish to play a recital in the early Fall should plan to register for and complete the final term of lessons during the preceding Summer months. A recital approval jury must be formed to demonstrate the student’s ability to perform the degree recital successfully. Normally, this occurs at the preceding term’s jury. If, by departmental approval, this jury does not occur, then a jury must be scheduled at least four weeks prior to the recital. If the jury is not successfully completed by that time, the department reserves the right to cancel the recital date. Further details are available from the department chair.

Contacts
Department Web Address:
http://www.temple.edu/boyer/academicprograms/keyboard-studies/

Department Information:
Dept. of Keyboard Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Dr. Charles Abramovic
charles.abramovic@temple.edu
215-204-7388

Chairperson:
Dr. Charles Abramovic
charles.abramovic@temple.edu
215-204-7388

String Pedagogy, M.M.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program
The Master of Music in String Pedagogy is for the graduate student who desires to concentrate on the pedagogy of stringed instruments.

Time Limit for Degree Completion: 6 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Accreditation: This degree program is accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: While private lessons and ensemble participation are required each term, a major concentration of the curriculum is the study and practice of the teaching of stringed instruments. Included in this concentration are coursework and fieldwork through the College’s preparatory division.

Job Prospects: The program prepares musicians for either professional activity or doctoral study.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related
to academic programs. Applicants must submit an assistantship/ internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/ gradassistantshipform.pdf) page of Boyer’s website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master’s students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

Applications are processed as they arrive. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

Bachelor’s Degree in Discipline/Related Discipline: A degree in Music is expected.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:

TOEFL: 79 iBT or 550 PBT minimum

Audition: See www.temple.edu/boyer for audition repertoire requirements.

Resume: Current resume required.

Transfer Credit: A student who wishes to transfer credit should speak with her/his academic advisor and obtain a “Request for Transfer of Graduate Credit” form, found in T'Portal under the Tools tab within “University Forms.” Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College’s Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:

Number of Didactic Credits Required Beyond the Baccalaureate: 33

Required Courses:

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
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<td>MUSC 8500</td>
<td>Instrumental Ensemble (4 terms)</td>
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</tr>
<tr>
<td>MUSC 8510</td>
<td>Instrumental Ensemble (2 terms)</td>
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<tr>
<td>MUSC 8541</td>
<td>Advanced Orchestral Conducting I-II</td>
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<tr>
<td>MUSC 8561</td>
<td>Lower String Pedagogy</td>
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<td>or MUSC 8562</td>
<td>Upper String Pedagogy</td>
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<td>MUSC 8566</td>
<td>String Major/Pedagogy</td>
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<td>MUSC 8568</td>
<td>String Major/Pedagogy</td>
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<td>MUSC 8569</td>
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</tr>
<tr>
<td>MUSC 9996</td>
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<tr>
<td>MUST 8701</td>
<td>Research in Music</td>
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</tr>
<tr>
<td>Electives 1</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

Total Credit Hours 33

1 Select from Music, Music Education, Music Studies, or other graduate departments. Performance practice courses recommended. Advisor approval required.

Performance: All bowed string pedagogy majors at the master’s degree level must perform in the university orchestra each term they receive lessons.

Additional Requirements:

Diagnostic Entrance Examinations:

All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a “Credit / No Credit” basis, and the official university transcript will indicate “CR” (for “Credit,” meaning that the deficiency has been satisfied) or “NC” (for “No Credit,” meaning that the deficiency has not been satisfied).
Students must have a "B-" or better average in any remedial course or section to earn the grade of "Credit" and to satisfy the requirement. Students who earn a grade of "NC" (that is, having a class average below "B") must retake that course or section until an average of "B-" or higher is achieved and a grade of "CR" is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remediation coursework during their first academic year of study. An exception may be granted for part-time students. Master of Music students may neither schedule graduation recitals nor take final comprehensive master's examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

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<td>1</td>
</tr>
<tr>
<td>MUST 5003</td>
<td>Counterpoint Review</td>
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<td>MUST 5004</td>
<td>Grad Aural Theory Review</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
- received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

Professional Development Policy:

In addition to taking the required subjects for their degrees, all students in the Boyer College of Music and Dance are obligated to serve in a number of capacities in order to enrich their academic and musical expertise. Boyer College of Music and Dance believes that such experiences give impetus to successful professional careers. Among the duties that may be required are conducting laboratory classes; tutoring; teaching private lessons; coaching; participating in the distribution and inventory control of Temple University-owned musical instruments and instructional materials; participating in ensembles; accompanying; performing at admissions and open house events; supervising performance classes; and engaging in other academic activities.

Performing Ensembles:

1. Touring: All students in touring performing ensembles are required to participate in all scheduled tours. These tours, usually one or two weeks in length, often take place immediately after termination of terms. Students must arrange their schedules to accommodate this requirement.

2. Participation: Master's degree candidates in wind, brass, and percussion instruments must be available for ensemble assignments at the discretion of the department chair, including participation beyond curricular requirements.

3. Non-Credit Participation: With special permission, graduate students for whom there is no ensemble requirement, or where previous ensemble credits exceed the graduation requirement, may participate in choral and instrumental ensembles without cost, with prior permission from the ensemble director, the department chair, and the Associate Dean.

Independent Study Courses:

Independent study courses provide a special opportunity for graduate students to work in a highly individualized setting with one or more faculty members. All such study must receive the approval of the faculty member providing the instruction, the students' major advisor, and the Associate Dean. Approval will be granted only after the student has presented a detailed description of the intended independent study project. Approval of independent study projects will be granted only for students whose academic and musical record provides substantial support for the benefits of this type of study. In no case may more than 20% of a graduate student's curriculum be taken as independent study. Private lessons beyond those required in the curriculum are not an appropriate form of independent study.

Acceptable English:

All students, including those for whom English is not the native language, are expected to present all written work in acceptable English. No double standard exists to differentiate students on the basis of proficiency in the use of the English language. Students are also responsible for becoming familiar with the College's statement on plagiarism and academic honesty.

Graduate Private Lesson Policy:

Weekly one-hour private lessons are provided for all matriculated master's and doctoral performance majors in good standing, provided at least three additional credits of programmatically required graduate-level study are taken simultaneously. A $250 per term lesson fee (subject to change without notice) is charged for all private lessons. Tuition remission may not be used to cover the private lesson fee.

Private applied lessons beyond the four-term requirement currently in effect for graduate performance students may be extended with the permission of the jury, department chair, and the Associate Dean or Dean of the Boyer College of Music and Dance.

Incompletes:

All incomplete grades and keyboard proficiencies must be fulfilled by the first day of the month in which the student expects to graduate.

Culminating Events:

Final Pedagogy Project:

The final pedagogy project is based on a subject determined with the major advisor, and may take the form of a lecture/recital, teaching
demonstration, research paper, article, or method book. Faculty members in the Department of Instrumental Studies grade the final project.

Contacts

Department Web Address:
http://www.temple.edu/boyer/academicprograms/instrumental-studies/

Department Information:
Dept. of Instrumental Studies
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
terell.stafford@temple.edu
215-204-5527

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Professor Jeffrey Solow
jeffrey.solow@temple.edu
215-204-5527

Chairperson:
Professor Terell Stafford
terell.stafford@temple.edu
215-204-8036

Vocal Arts, M.M.

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Program

The interdisciplinary Master of Music in Vocal Arts is designed for graduate students who want to continue their education and practice in the disciplines of solo and choral singing in preparation for careers in community music, education, or performance. The degree offers an opportunity to broaden the scope of graduate vocal education beyond the classical studio experience. Students complete a core of private voice lessons and choral ensembles, and may select electives in choral studies, music education, musical theater, and voice/opera studies.

In contrast to the Master of Music in Voice Performance, which is a focused program that serves students whose career goal is to become a professional classical voice performer, the Vocal Arts M.M. allows students to broaden their vocal training to choral music, conducting, music education, or musical theater. The Vocal Arts M.M. program allows students to balance the rigor of classical voice training with the freedom to select an area of focus in another genre.

Time Limit for Degree Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Accreditation: Accreditation is being sought from the National Association of Schools of Music (NASM).

Areas of Specialization: Within the prescribed credits for the M.M. in Vocal Arts, students can focus their studies on choral music, conducting, music education, or musical theater.

Job Prospects: The program prepares students for various careers related to the vocal arts and for further academic training at the doctoral level.

Non-Matriculated Student Policy: Non-matriculated students may enroll in selected courses in music with permission, but may not take applied lessons until they have been fully admitted and matriculated.

Financing Opportunities: Boyer College of Music and Dance offers a number of assistantships and academic internships to matriculated graduate students. Full awards carry a cash stipend plus full tuition remission for the Fall and Spring terms. Partial awards also are available in values of 1/4 or 1/2 of a full award. Duties for assistantships and internships vary, but typically include teaching, tutoring, classroom assistance, research, artistic performance, and/or direct service related to academic programs. Applicants must submit an assistantship/internship application by March 1 to obtain priority consideration for an award. Applications are available online at the Graduate Financial Aid (http://www.temple.edu/boyer/admissions/documents/gradassistantshipform.pdf) page of Boyer's website. Typically these awards are made only in the Fall term for up to two terms: Fall and Spring. Awards may be renewed on an annual basis (typically up to one additional year for master's students and up to three years for doctoral students) based on departmental needs as well as satisfactory academic and musical progress by the recipient.

Admission Requirements and Deadlines

Application Deadline:
Fall: March 1
Spring: November 1

Applications are processed as they arrive up to the deadline date.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into an applicant's abilities, talents, and aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours.

Bachelor's Degree in Discipline/Related Discipline: A degree in Music is expected.
Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:
TOEFL: 75 iBT or 537 PBT minimum

Audition: Applicants must successfully pass a voice audition.

Resume: Current resume required.

Transfer Credit: A student who wishes to transfer credit should speak with her/his academic advisor and obtain a "Request for Transfer of Graduate Credit" form, found in TUPortal under the Tools tab within “University Forms.” Transfer credits must be approved by the advisor, the department chair, and the Associate Dean. The maximum number of credits a student may transfer is 6.

Other: Due to the large number of applications for admission and the competitive nature of its music programs, the College admits only a portion of its applicants. In addition to the general admissions credentials required of all Temple University graduate applicants, specialized admission criteria (i.e., auditions, portfolios, interviews, recommendations, departmental term papers, and standardized examinations) are very heavily weighted in admission decisions of the Boyer College of Music and Dance. Graduate applicants may be rejected for admission for failing to obtain the required level of proficiency in any one area of the specialized admission criteria regardless of the level of success in meeting the Temple University general admission criteria. In addition to the level of success demonstrated in the above-mentioned criteria, a final admission factor is the College's Optimum Enrollment Policy. This Policy may preclude the admission of any student who meets the minimum requirements.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 8204</td>
<td>Voice Major</td>
<td>3</td>
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<tr>
<td>MUSC 8214</td>
<td>Voice Major</td>
<td>3</td>
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<tr>
<td>MUSC 8224</td>
<td>Voice Major</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 8310</td>
<td>Choral Ensemble (3 terms)</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8701</td>
<td>Research in Music</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives
Select courses in Choral Conducting, Choral Literature, Music Education, Musical Theater, Opera Diction, Pedagogy, or Vocal Literature

Final Project
MUSC 8284 Voice Major-Recital 3

Total Credit Hours 30

Language Examination: To complete the degree, students must fulfill a foreign language requirement in French, German, Italian, Spanish, or another language with approval of the chair. This requirement may be fulfilled in any one of three ways:

1. The student successfully completed three terms of a foreign language (one term each of French, German, or Italian) as an undergraduate.
2. The student passes a foreign language examination with the requisite language department.
3. The student completes three terms of a foreign language (one term each of French, German, or Italian). Since language credits are at the undergraduate level, they do not count toward the M.M. degree, but they do fulfill the language requirement.

Additional Requirements:

All degree requirements are to be earned at Temple University.

Diagnostic Examinations:
All entering Master of Music students are required to take Diagnostic Examinations in Harmony, Counterpoint, Aural Skills, and Music History prior to the first term of graduate study. The purpose of these examinations is to ascertain adequate preparation for graduate study in these areas. Examinations in Harmony, Counterpoint, and Aural Skills may be taken once. The examination in Music History may be taken a second time.

Students who are unable to take the examinations at the designated time may do so using the online proctoring service, Examity® (https://examity.com). Students are responsible for all fees.

Students who opt not to take any or all exams prior to the first semester of study are required to complete remedial coursework within the first academic year.

Depending on the examination results, students may be required to take one or more remedial courses. Remedial courses are graded on a "Credit / No Credit" basis, and the official university transcript will indicate "CR" (for "Credit," meaning that the deficiency has been satisfied) or "NC" (for "No Credit," meaning that the deficiency has not been satisfied). Students must have a "B-" or better average in any remedial course or section to earn the grade of "Credit" and to satisfy the requirement. Students who earn a grade of "NC" (that is, having a class average below "B-") must retake that course or section until an average of "B-" or higher is achieved and a grade of "CR" is recorded on the official university transcript. Remedial courses do not count toward graduate degree requirements.

It is highly recommended that students complete all remediation coursework during their first academic year of study. An exception may be granted for part-time students. Master of Music students may neither schedule graduation recitals nor take final comprehensive master's examinations until all of the diagnostic examinations and any required remediation have been successfully completed.

A. Diagnostic Examinations in Music Theory, including Harmony, Counterpoint, and Aural Skills

Students may take each portion of the theory test only once. Any section not graded as passing necessitates enrollment in a remedial course(s) during the first term of study. Examiners stipulate which section(s) of remedial coursework are required. Theory remedial courses include:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
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<tr>
<td>MUST 5001</td>
<td>Diatonic Harm. Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5002</td>
<td>Chromatic Harm. Review</td>
<td>1</td>
</tr>
<tr>
<td>MUST 5003</td>
<td>Counterpoint Review</td>
<td>1</td>
</tr>
</tbody>
</table>
MUST 5004  Grad Aural Theory Review  3

B. Diagnostic Examination in Music History

Students may take each of the five sections of the history test twice. After the second attempt, any section not graded as passing necessitates enrollment in a remedial course(s). Examiners stipulate which section(s) of remedial coursework are required.

The History remedial course is MUST 5005 Remedial Studies in Music History. Each of five sections are enrolled in for one credit and are subtitled according to the period covered in the coursework: Baroque, Classic, Medieval/Renaissance, Romantic, and Twentieth Century. Remediation can be extended over two terms.

C. Conditions for Exemption from Diagnostic Examinations

The requirement to take the Diagnostic Examination in any area is waived only for graduates of the Boyer College of Music and Dance who:

- matriculate and enroll in the term immediately following completion of all undergraduate degree requirements; and
- received grades of "B-" or better in every undergraduate course taken in each individual examination area to be waived.

Culminating Events:

Comprehensive Examination:
Students complete a one-hour comprehensive examination in music literature and music theory. The examination is in three parts:

- identification of specific selections from a list of 100 works,
- identification of a "mystery" selection, and
- score analysis.

Two graduate faculty members grade the examination.

Final Project:
The supervised final project reflects the student’s areas of study, culminating in a unique one-hour public performance, at least half of which must be the candidate’s solo performance. The interdisciplinary nature of the degree affords several project options for the final project performance, including choral conducting, lecture recital, thesis, or vocal recital that could include both classical and contemporary commercial music repertoire.

Contacts

Department Web Address:
http://www.temple.edu/boyer/academicprograms/voice-opera/

Department Information:
Dept. of Vocal Arts
Center for the Performing and Cinematic Arts/Boyer College of Music and Dance
2001 N. 13th Street
Philadelphia, PA 19122-6079
christine.anderson@temple.edu
215-204-8375

Submission Address for Application Materials:
https://apply.temple.edu/Boyer/

Department Contacts:

Admissions:
James Short
jshort@temple.edu
215-204-8598

Program Coordinator:
Dr. Christine Anderson
christine.anderson@temple.edu
215-204-8375

Chairperson:
Dr. Paul Rardin
rardin@temple.edu
215-204-4742

Graduate Certificate: Professional Studies

Center for the Performing and Cinematic Arts / BOYER COLLEGE OF MUSIC AND DANCE (http://www.temple.edu/boyer)

About the Certificate

The post-master's certificate program in Professional Studies is rooted in the conservatory tradition with a strong emphasis on advanced performance study. It offers a year of comprehensive study and intensive training in major performance areas. Students choose from 12 instruments, including brass, cello, classical guitar, double bass, historical keyboard instruments, opera, percussion, piano, viola, violin, voice, and woodwinds.

Time Limit for Degree Completion: 2 years

Campus Location: Main

Full-Time/Part-Time Status: The certificate program is completed on a full-time basis.

Accreditation: The degree programs of Boyer College of Music and Dance are accredited by the National Association of Schools of Music (NASM).

Areas of Specialization: The Professional Studies post-master's certificate is offered in the following instruments:

- Brass
- Cello
- Classical Guitar
- Double Bass
- Historical Keyboard Instruments
- Opera
- Percussion
- Piano
- Viola
- Violin
- Voice
- Woodwinds
Job Prospects: The certificate program prepares musicians who are already performing at the post-master's level with specialized preparation for the professional world.

Non-Matriculated Student Policy: Students admitted to the certificate program are classified as non-matriculated graduate students by the University, since the program does not lead to a degree. No portion of the Professional Studies curriculum can be completed by credit transfer from another institution. Additionally, credit earned in Professional Studies cannot be transferred to another Boyer College program.

Admission Requirements and Deadlines

Application Deadline:

Fall and Spring: Admission is on a rolling basis. Interested students should contact music@temple.edu for permission to enroll in coursework.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate Bachelor of Music degree at Temple University, which is based on a curriculum of 124 to 135 hours. To enroll in the post-master's certificate program, candidates must hold the Master of Music degree (or the equivalent) in the field of specialization from an accredited institution.

Master's Degree in Discipline/Related Discipline: A degree in Music is expected.

Bachelor's Degree in Discipline/Related Discipline: A degree in Music is expected.

Certificate Requirements

Number of Credits Required to Complete the Certificate: 18

Required Courses:

Brass, Classical Guitar, Percussion, and Woodwinds

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>MUSC 8500</td>
<td>Instrumental Ensemble (2 terms)</td>
<td>2</td>
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<tr>
<td>MUSC 9001</td>
<td>Appl Music-Prof Studies</td>
<td>4</td>
</tr>
<tr>
<td>MUSC 9002</td>
<td>Appl Music-Prof Studies</td>
<td>4</td>
</tr>
<tr>
<td>Ensemble or Repertoire course (2 terms)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Elective (2 terms) 1</td>
<td></td>
<td>6</td>
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<tr>
<td>Total Credit Hours</td>
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<td>18</td>
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</tbody>
</table>

1 Students select electives to meet their individual needs. These may be advanced theory or history courses, performance practice courses, non-music courses that support the student's major study, or courses designed to fill gaps in earlier study. With departmental permission, elective credits may also be fulfilled by additional repertoire or ensemble courses, but only if this does not limit the participation of students in other programs in the College.

Cello, Viola, and Violin

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tr>
<td>MUSC 8500</td>
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<td>2</td>
</tr>
<tr>
<td>MUSC 8510</td>
<td>Instrumental Ensemble (2 terms)</td>
<td>2</td>
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</table>

Double Bass

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>MUSC 8500</td>
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<td>2</td>
</tr>
<tr>
<td>or MUSC 8510</td>
<td>Instrumental Ensemble</td>
<td></td>
</tr>
<tr>
<td>MUSC 9001</td>
<td>Appl Music-Prof Studies</td>
<td>4</td>
</tr>
<tr>
<td>MUSC 9002</td>
<td>Appl Music-Prof Studies</td>
<td>4</td>
</tr>
<tr>
<td>Ensemble or Repertoire course (2 terms)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Elective (2 terms) 1</td>
<td></td>
<td>6</td>
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<tr>
<td>Total Credit Hours</td>
<td></td>
<td>18</td>
</tr>
</tbody>
</table>

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Historical Keyboard Instruments and Piano

<table>
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<tbody>
<tr>
<td>MUSC 9001</td>
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<td>Ensemble, Accompanying, Literature, or Repertoire course (2 terms)</td>
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<td></td>
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</tbody>
</table>

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Opera

<table>
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<tr>
<td>MUSC 8231</td>
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<tr>
<td>MUSC 8232</td>
<td>Opera Role Preparation</td>
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</tr>
<tr>
<td>MUSC 8235</td>
<td>Opera Vocal Lessons</td>
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</tr>
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</table>
MUSC 8236 Opera Vocal Lessons 2  
Elective (2 terms)  1  
Elective (2 terms)  1  
Total Credit Hours  18 

  1 Students select electives to meet their individual needs. These 
may be advanced theory or history courses, performance practice 
courses, non-music courses that support the student's major study, 
or courses designed to fill gaps in earlier study, although it is 
recommended that those in Opera take 2 credits of MUSC 8215 
Vocal Coaching. With departmental permission, elective credits may 
also be fulfilled by additional repertoire or ensemble courses, but only 
if this does not limit the participation of students in other programs in 
the College.

Voice

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>MUSC 9001</td>
<td>Appl Music-Prof Studies</td>
<td>4</td>
</tr>
<tr>
<td>MUSC 9002</td>
<td>Appl Music-Prof Studies</td>
<td>4</td>
</tr>
<tr>
<td>Ensemble, Repertoire, Literature, or other Performance course (2 terms)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Elective (2 terms)  1</td>
<td></td>
<td>6</td>
</tr>
<tr>
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<td></td>
<td>18</td>
</tr>
</tbody>
</table>

  1 Students select electives to meet their individual needs. These 
may be advanced theory or history courses, performance practice 
courses, non-music courses that support the student's major study, 
or courses designed to fill gaps in earlier study. With departmental 
permission, elective credits may also be fulfilled by additional 
repertoire or ensemble courses, but only if this does not limit the 
participation of students in other programs in the College.

Additional Requirements: Only grades of B- and higher count toward 
certificate requirements.

Culminating Events: A graduation recital is not required. Students are, 
however, required to play a jury each academic term.

Contacts

Certificate Program Web Address:
http://www.temple.edu/boyer/admissions/professional-studies-cert/

Admissions Information:
Center for the Performing and Cinematic Arts/Boyer College of Music and 
Dance  
129 Presser Hall  
2001 N. 13th Street  
Philadelphia, PA 19122-6079  
music@temple.edu  
215-204-8598

Submission Address for Application 
Materials:
https://apply.temple.edu/Boyer/

Department Contacts:
Admissions:  
James Short
Center for the Performing and Cinematic Arts / School of Theater, Film and Media Arts

The School of Theater, Film and Media Arts brings the Department of Theater and the Department of Film and Media Arts under the umbrella of the Center for the Performing and Cinematic Arts.

Theater

Located on the northern edge of the Avenue of the Arts and just moments away from the heart of Philadelphia’s thriving theater community, the Department of Theater has established itself as one of the finest theater training programs in the nation. Many of our alumni are thriving as actors, directors, playwrights, designers, and technicians. They are working artists with credits on stage, television, and film here in Philadelphia; in major entertainment industry centers like New York City and Los Angeles; and professional theater companies all across the country and internationally.

The Professional Training Program in Theater at Temple University, which awards the Master of Fine Arts (M.F.A.), has distinguished itself as one of the foremost theater training and performance institutions in the nation, and as an important contributor to the Philadelphia theater landscape. Our M.F.A. actors, directors, designers, playwrights, and technicians collaborate with professional faculty, staff, and guest artists to train and produce exciting contemporary theater, encompassing a broad range of genres and styles, including classics, new plays, and musicals, for a diverse campus and public audience. Our faculty is comprised of a collaborative team of experienced, celebrated working professionals and distinguished scholars from the theater world, who, as both teachers and mentors, generously share their consummate artistry, seasoned expertise, and great passion for practicing the craft of theater.

Film and Media Arts

The Master of Fine Arts (M.F.A.) program in Film and Media Arts (FMA) is the country’s foremost program in alternative film, video, and new media. FMA is internationally recognized as a center for filmmaking that is socially engaged, activist, diverse, interdisciplinary, and international. With approximately 40 graduate students from diverse communities and countries, the program is large enough to offer intellectual stimulation through a wide range of courses, yet small enough to afford individual attention, maximum access to equipment, and creative control over one’s own projects.

The M.F.A. in FMA is viewed as a creative laboratory for producing works of social significance and artistic merit. We are committed to advancing methods that articulate alternative voices, including those of women; people of color; and others who have been economically, politically, or artistically disenfranchised. We look for students with strong creative ideas, experiences, and critical depth, no matter their background. FMA students come from all over the world, including through programs like Fulbright. Situated in Philadelphia’s thriving arts scene, diverse communities, and institutions, the program additionally offers students wide-ranging opportunities for collaborations and audiences.

The M.F.A. is a terminal degree comparable to a doctoral degree, with the notable exception that the Temple program stresses a creative synthesis of both production and theory, requiring comprehensive exams and a final creative project instead of a dissertation. Students work with faculty who are international leaders in their fields with awards from Fulbright, Guggenheim, Jerome, NEA, NEH, Pew, and Rockefeller as well as major film, art, and publication credits. Through the M.F.A. at FMA, filmmakers, videomakers, screenwriters, and media artists challenge the current practices of Hollywood, commercial television, and global media. With a combination of academic and professional training, the degree qualifies graduates to teach on the university level.

The M.F.A. program at Temple is one of the most recognized graduate programs in the country in terms of national and international film and video awards. Temple graduate students have received nationally competitive:

- University Film and Video Association production grants,
- National Endowment for the Arts media fellowships, and
- Eastman Kodak Scholarships, the nation’s most competitive scholarship in cinematography.

Temple graduate students have also received major recognition at:

- American Film Institute FEST, Ann Arbor Film Festival, Asian American International Film Festival, Chicago International Film Festival, the Dore Schary Awards, New York Film Festival, Philadelphia Film Festival, San Francisco International Film Festival, and Sundance Film Festival, as well as

Major professional recognition for student projects includes:

- Hollywood’s coveted Academy Nicholl Fellowship in Screenwriting,
- Several Oscar nominations, and
- Awards from both the Academy of Motion Picture Arts and Sciences and the Academy of Television Arts and Sciences.

In addition, Temple M.F.A. productions have been picked up for distribution by such prestigious organizations as:

- Coe Film Associates
- Direct Cinema Limited
- Museum of Modern Art
- New Day Films
- Women Make Movies

and for national and international broadcasts in the United States, Asia, Australia, Canada, and Europe.

Programs

Degree Programs and Certificate

- Documentary Arts and Visual Research, Ph.D. (p. 284)
- Film and Media Arts, M.F.A. (p. 287)
- mediaXarts: Cinema for New Technologies and Environments, M.A. (p. 289)
- Musical Theater Collaboration, M.F.A. (p. 291)
- Musical Theater Studies, M.A. (p. 294)
- Theater/Acting, M.F.A. (p. 295)
- Theater/Design, M.F.A. (p. 297)
- Theater/Directing, M.F.A. (p. 298)
- Theater/Playwriting, M.F.A. (p. 301)
Graduate Faculty

Nora Alter, Professor, Department of Film and Media Arts, School of Theater, Film and Media Arts; Ph.D., University of Pennsylvania.

Maggie Anderson, Associate Professor (Teaching/Instructional), Department of Theater, School of Theater, Film and Media Arts; M.F.A., University of Cincinnati CollegeConservatory of Music.

Allan S. Barber, Assistant Professor, Department of Film and Media Arts, School of Theater, Film and Media Arts; M.F.A., Temple University.

Warren F. Bass, Professor, Department of Film and Media Arts, School of Theater, Film and Media Arts; M.F.A.

Chris Cagle, Associate Professor, Department of Film and Media Arts, School of Theater, Film and Media Arts; Ph.D., Brown University.

Marie Anne Chiment, Professor, Department of Theater, School of Theater, Film and Media Arts; M.F.A., New York University Tisch School of the Arts.

Roderick L. Coover, Professor, Department of Film and Media Arts, School of Theater, Film and Media Arts; M.A.

Sarah Drury, Associate Professor, Department of Film and Media Arts, School of Theater, Film and Media Arts; M.A., New York University Tisch School of the Arts.

Fred Duer, Professor, Department of Theater, School of Theater, Film and Media Arts; M.F.A., Ohio University.

LeAnn Erickson, Professor, Department of Film and Media Arts, School of Theater, Film and Media Arts; M.F.A., University of Iowa.

Marcus Giamatti, Associate Professor, Department of Theater, School of Theater, Film and Media Arts; M.F.A., Yale University.

Lindsay Goss, Assistant Professor, Department of Theater, School of Theater, Film and Media Arts; Ph.D., Brown University.

Steven Gross, Associate Professor, Department of Theater, School of Theater, Film and Media Arts; Ph.D., Yale University.

Robert Hedley, Professor, Department of Theater, School of Theater, Film and Media Arts; M.F.A., University of Texas.

David Ingram, Associate Professor (Practice), Department of Theater, School of Theater, Film and Media Arts; M.F.A., New York University Tisch School of the Arts.

Lynne Innerst, Associate Professor, Department of Theater, School of Theater, Film and Media Arts; M.F.A., University of Southern California.

Melanie Julian, Associate Professor (Practice), Department of Theater, School of Theater, Film and Media Arts; M.F.A., Point Park University.

Michael J. Kuetemeyer, Assistant Professor, Department of Film and Media Arts, School of Theater, Film and Media Arts; M.F.A., Temple University.

David A. Parry, Professor, Department of Film and Media Arts, School of Theater, Film and Media Arts; M.S., Massachusetts Institute of Technology.

Eran Preis, Associate Professor, Department of Film and Media Arts, School of Theater, Film and Media Arts; M.A., Ohio University.

Jeffrey S. Rush, Associate Professor, Department of Film and Media Arts, School of Theater, Film and Media Arts; M.F.A., University of Iowa.

Donna Snow, Associate Professor, Department of Theater, School of Theater, Film and Media Arts; M.F.A., American Conservatory Theater.

Elisabeth Subrin, Associate Professor, Department of Film and Media Arts, School of Theater, Film and Media Arts; M.F.A., School of the Art Institute of Chicago.

Paul Swann, Professor, Department of Film and Media Arts, School of Theater, Film and Media Arts; Ph.D., University of Chicago.

Rea Tajiri, Associate Professor, Department of Film and Media Arts, School of Theater, Film and Media Arts; M.F.A., California Institute of the Arts.

Douglas C. Wager, Professor, Department of Theater, School of Theater, Film and Media Arts; M.F.A., Boston University.

Kimmika Williams-Witherspoon, Associate Professor, Department of Theater, School of Theater, Film and Media Arts; Ph.D., Temple University.

Lauren Wolkstein, Assistant Professor, Department of Film and Media Arts, School of Theater, Film and Media Arts; M.F.A., Columbia University.

Documentary Arts and Visual Research, Ph.D.

Center for the Performing and Cinematic Arts / SCHOOL OF THEATER, FILM AND MEDIA ARTS (https://tfma.temple.edu)

Learn more about the Doctor of Philosophy in Documentary Arts and Visual Research (https://www.temple.edu/academics/degree-programs/documentary-arts-and-visual-research-phd-ca-davr-phd).

About the Program

The Ph.D. program in Documentary Arts and Visual Research is designed for students who have developed a professional level of technological artistry in sound and image production through the completion of an M.F.A. degree and who want to apply their skills to develop visual research projects or to reflect critically on traditional and digital forms of cinema through scholarship and technological analysis. The Ph.D. program offers M.F.A. graduates the opportunity to use their creative education to take on the intellectual challenge of our technological age: the expression of ideas, once communicated entirely by written means but now through multiple forms of media.

In the Ph.D. program, students explore research questions based in field-based research, critical analysis, and/or history of nonfictional forms in film, media arts, and emerging technologies. The intertwining relationships of theory and practice are at the heart of this interdisciplinary program. Students enter with both a professional mastery production in cinema and media arts or a related field as well.
as strong scholarly skills. Thus, they can create groundbreaking work that moves fluidly between creative and critical approaches to images and the stories they tell. Doctoral projects may draw from multiple disciplines and research methods in the arts, humanities, and sciences. The projects may take many forms, such as those of critical, digital, and visual research in the humanities, interactive and emergent forms of writing, and cross-disciplinary visual ethnography.

Learning outcomes include the ability to:

- Apply advanced visualization technologies and creative methods in the pursuit of original scholarly research;
- Expand critical research from both theoretical and applied perspectives;
- Pursue scholarly careers in a vital and emerging technological field; and
- Work with research teams that are engaged in digital scholarship and visualization in such diverse fields as anthropology, geography, and media studies.

**Time Limit for Degree Completion:** 3 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The degree program is expected to be completed on a full-time basis.

**Interdisciplinary Study:** The program requires students to take one appropriate interdisciplinary elective from inside or outside of the department.

**Ranking:** Temple’s Film and Media Arts graduate programs are ranked among the top 10 film/video programs nationally and within the top three programs offered by public institutions.

**Areas of Specialization:** Dr. Roderick Coover, Program Director, has been a pioneer of visual research, interactive documentary cinema, and visual ethnography since the 1990s. Dr. Paul Swann’s scholarship focuses on documentary film history, the international culture trade, and media in the city. Dr. Nora Alter publishes books and other critical works on essay films, German nonfiction cinema, and other related topics. Dr. Chris Cagle publishes books and essays on documentary theory and practice.

Additionally, many of the program’s practice-oriented faculty, including Professors Warren Bass, Peter D’Agostino, Sarah Drury, LeAnn Ericksen, Michael Kuememeyer, David Parry, Eran Preis, Jeff Rush, and Rea Tajiri, make documentary works or works integrating documentary praxis. Students also have opportunities to work with faculty in related departments both within the Center for the Performing and Cinematic Arts and beyond.

**Job Prospects:** Graduates are prepared for advanced career opportunities in academia, research-based documentary production, cultural institutions/foundations, research institutions, arts curating, emerging media technologies and industries, and critical writing wherein both interdisciplinary and applied perspectives are invaluable.

**Non-Matriculated Student Policy:** Coursework is limited to those matriculating in the Ph.D. program.

**Financing Opportunities:** Contact the department directly for more information.

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**Admission Requirements and Deadlines**

**Application Deadline:**

- **Fall:** December 15

Applications are evaluated together after the deadline has passed. Late applications may be considered for admission.

**APPLY ONLINE to this graduate program.**

**Letters of Reference:**

- **Number Required:** 3

**From Whom:** Letters of recommendation should be obtained from college/university faculty familiar with the applicant’s academic competency and/or professionals working in film, media arts, and documentary forms, or other closely related fields.

**Coursework Required for Admission Consideration:** Students who earned their M.F.A. at a university other than Temple should contact the Ph.D. Program Director, Dr. Roderick Coover, at roderick.coover@temple.edu to ensure that their graduate work prepares them for the Ph.D. degree.

**Master’s Degree in Discipline/Related Discipline:** All applicants must have earned a Master of Fine Arts degree in film or media arts or be in the final year of their M.F.A. program. The Ph.D. program is designed for students seeking to integrate production and theory who have finished their M.F.A. degree by the end of the summer before the Ph.D. program begins.

**Bachelor’s Degree in Discipline/Related Discipline:** All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

**Applicants educated in China should heed the following information:** Documents certified by the China Academic Degrees and Graduate Education Development Center (CDGDC) (https://www.chinadegrees.cn) or the China Higher Education Student Information and Career Center (CHESICC) (https://www.chsi.com.cn) are required for a full credential evaluation. Photocopies of transcripts, degree certificates, and diploma certificates are not considered official and are not acceptable substitutes for the official documentation. The admissions committee for the Ph.D. program will review your materials to determine your admissions status provided the required documentation is submitted in support of your application.

**Statement of Goals:** In approximately 500 words, describe your primary goals and areas of interest for your doctoral studies, as well as your long-term professional aims and relevant biographical information.

**Standardized Test Scores:**

Applicants who earned their baccalaureate degree from an institution where the language of instruction was other than English, with the exception of those who subsequently earned a master’s degree at a U.S. institution, must report scores for a standardized test of English that meet these minimums:

- TOEFL iBT: 100
- IELTS Academic: 7.0
- PTE Academic: 68

**Portfolio:** Applicants must submit a portfolio, which should include film, video, media arts, visual art, creative writing, photography, or other media
related to their proposed doctoral goals. The applicant’s role in each work must be clearly indicated.

**Resume:** Current resume required.

**Writing Sample:** Submission of a scholarly writing sample related to the applicant’s doctoral goals is also required.

**Advanced Standing:** The Ph.D. in Documentary Arts and Visual Research program consists of 37 discrete credits taken beyond the M.F.A. degree. At the time of admission, the entire M.F.A. degree serves as advanced standing credits. These credits are not counted toward the 37 required credits of the doctoral degree. However, students may transfer into the doctoral degree up to 6 graduate credits in coursework taken beyond the M.F.A. degree. Typically, this coursework is reviewed after admission to the Ph.D. degree and must be approved by the Film and Media Arts committee.

**Program Requirements**

**General Program Requirements:**
Number of Credits Required Beyond the M.F.A.: 37

**Required Courses:**

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Fall</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>FMA 5671</td>
<td>Film History and Theory $^1$</td>
<td>3</td>
</tr>
<tr>
<td>FMA 8462</td>
<td>Documentary Arts and Visual Research $^1$</td>
<td>4</td>
</tr>
<tr>
<td>Elective $^2$</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Term Credit Hours</td>
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<tr>
<th>Spring</th>
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<tbody>
<tr>
<td>FMA 5468</td>
<td>Art-Culture-Technology Seminar $^1$</td>
</tr>
<tr>
<td>FMA 9346</td>
<td>Methodologies and Praxis</td>
</tr>
<tr>
<td>FMA 9683</td>
<td>Directed Readings</td>
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<td>Term Credit Hours</td>
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<th>Year 2</th>
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<td>FMA 9345</td>
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<td>FMA 9994</td>
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<tr>
<td>Elective $^2$</td>
<td></td>
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<tr>
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<th>Spring</th>
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<tbody>
<tr>
<td>FMA 9998 $^3$</td>
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<table>
<thead>
<tr>
<th>Year 3</th>
<th>Fall</th>
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<tbody>
<tr>
<td>FMA 9999</td>
<td></td>
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<tr>
<td>Term Credit Hours</td>
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<thead>
<tr>
<th>Spring</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>FMA 9999</td>
<td></td>
</tr>
<tr>
<td>Term Credit Hours</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours: 37

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1. Students who have previously taken FMA 5468, FMA 5671, and FMA 8462 are required to substitute a graduate-only, non-production course with approval from the student’s advisor and the Program Director.

2. Electives are to be taken at the 5000 level and higher. A list of approved electives is provided in the table below. Students may also request to take other courses, provided the work contributes to their research agenda. Students should consult with their advisor, the Program Director, and topic specialists to structure the coursework.

3. The dissertation proposal is due no later than March 30.

**Approved Electives:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>ANTH 8408</td>
<td>Approaches in the Anthropology of Visual Communication I</td>
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</tr>
<tr>
<td>ANTH 8409</td>
<td>Approaches in the Anthropology of Visual Communication II</td>
<td>3</td>
</tr>
<tr>
<td>ARTH 8440</td>
<td>Seminar: Problems, Period, Style</td>
<td>3</td>
</tr>
<tr>
<td>DANC 9852</td>
<td>Dancing the Popular</td>
<td>3</td>
</tr>
<tr>
<td>ENG 9300</td>
<td>Seminar in Critical Theory</td>
<td>3</td>
</tr>
<tr>
<td>FMA 5672</td>
<td>History of Documentary Film</td>
<td>4</td>
</tr>
<tr>
<td>FMA 5673</td>
<td>Time-Image Arts/Cinema Praxis</td>
<td>4</td>
</tr>
<tr>
<td>FMA 5674</td>
<td>Media Arts Thry-Practice</td>
<td>4</td>
</tr>
<tr>
<td>FMA 8244</td>
<td>Experimental Methods</td>
<td>4</td>
</tr>
<tr>
<td>FMA 8670</td>
<td>Seminar: International Film</td>
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<td>FMA 8870</td>
<td>U Penn Critical Studies</td>
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<tr>
<td>MUST 8743</td>
<td>Seminar in Stylistic Analysis</td>
<td>3</td>
</tr>
<tr>
<td>MUST 8749</td>
<td>Current Topics in Musicology and Theory</td>
<td>3</td>
</tr>
<tr>
<td>PDS 8501</td>
<td>Theories Visual Represnt</td>
<td>3</td>
</tr>
</tbody>
</table>

**Culminating Events:**

**Proposal:**
Students develop their dissertation proposal through individual tutorials and group workshops. The dissertation proposal is due no later than March 30.

**Dissertation:**
Students work with their dissertation advisor to complete the dissertation. Doctoral dissertation projects are to employ the latest visualization technologies.

Early in the term in which a defense of the dissertation is anticipated, the major advisor notifies the Associate Dean that it is time to appoint the Dissertation Examining Committee (DEC). The DEC consists of the Doctoral Advisory Committee (DAC) plus an “outside” reader, who is an additional graduate faculty member from Temple or another university, but not from the faculty of the student's home department.

Doctoral candidates must schedule a defense of the dissertation with the Associate Dean at least one month before the requested defense date. The "Announcement of Dissertation Defense" form, found in TUportal under the Tools tab within “University Forms,” must bear all appropriate signatures and be submitted to the Associate Dean.

Two weeks prior to the oral defense, the student submits individual copies of the abstract and the completed dissertation to the Associate
Dean and each member of the DEC. The graduate secretary notifies the Graduate School and posts notices of the impending defense on bulletin boards located within the School of Theater, Film and Media Arts. All members of the DEC attend the oral defense and then vote to pass or fail the dissertation and its defense after the conclusion of the public presentation.

**Contacts**

**Program Web Address:**
https://www.temple.edu/academics/degree-programs/documentary-arts-and-visual-research-phd-ca-davr-phd

**Department Information:**
Film and Media Arts Graduate Admissions
Center for the Performing and Cinematic Arts/School of Theater, Film and Media Arts
2001 N. 13th Street, 127 Presser Hall
Philadelphia, PA 19122-6016
FilmMFA@temple.edu
215-204-8598
Fax: 215-204-4957

**Mailing Address for Application Materials:**
Graduate Admissions
Center for the Performing and Cinematic Arts/School of Theater, Film and Media Arts
2001 N. 13th Street, 127 Presser Hall (012-00)
Philadelphia, PA 19122-6016

**Department Contacts:**

*Admissions:*
Paury Flowers
Recruitment Coordinator
FilmMFA@temple.edu

*Program Director:*
Roderick Coover
rcoover@temple.edu

*Chairperson:*
Paul Swann
paul.swann@temple.edu

**Film and Media Arts, M.F.A.**

Center for the Performing and Cinematic Arts / SCHOOL OF THEATER, FILM AND MEDIA ARTS (https://tfma.temple.edu)

Learn more about the Master of Fine Arts in Film and Media Arts (https://www.temple.edu/academics/degree-programs/film-and-media-arts-mfa-ca-fma-mfa).

**About the Program**

The M.F.A. program in Film and Media Arts is designed to prepare socially aware, artistically innovative candidates for professional careers in film, video, or digital media. The program is characterized by an openness to all forms of media expression, with an emphasis on independent film and video arising out of both an artistic and social consciousness, taught under the supervision of recognized scholars and professionals in the field. Special attention is paid to the contemporary documentary, the independent narrative, video art and installation, and emerging forms and technologies.

**Time Limit for Degree Completion:** 5 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** Students complete the degree program through classes offered before 4:30 p.m.

**Interdisciplinary Study:** Although graduate students in the Film and Media Arts (FMA) program are expected to complete most of their coursework in the FMA Department, they are encouraged to explore relevant courses in other departments.

**Affiliation(s):** The FMA program is associated with the University Film and Video Association, an international organization of university and industry professionals working in the field of media production.

**Study Abroad:** FMA courses are offered at Temple’s satellite campuses in Rome, London, and Tokyo where graduate students may choose to complete courses.

**Ranking:** The M.F.A. in Film and Media Arts is ranked among the top 10 film/video programs nationally and is one of the top three programs offered by public institutions.

**Areas of Specialization:** Faculty members specialize and offer coursework in:

- Directing
- Media history
- Media studies
- Narrative and non-narrative scriptwriting
- New media
- Producing
- Production
- Post-production

**Job Prospects:** The FMA graduate program produces media makers who pursue careers in academia and in the communications and production industries. Many graduates choose to work independently, creating original narrative and documentary films and videos or new media projects.

**Non-Matriculated Student Policy:** Non-matriculated students may take up to 9 credit hours of study within the department at the discretion of individual instructors.

**Financing Opportunities:** Applicants to the M.F.A. program in Film and Media Arts are eligible and nominated for Teaching Assistantship and Fellowship awards during the application process. Most students accepted into the program receive some form of funding, which can be applied to the full 54-credit program at the rate of up to 13 credits per term. The awards include:

- **Four-Term Teaching Assistantship** – FMA departmental awards provide 50% tuition support and a stipend for either terms 1-4 or terms 2-5.
- **Three-Term Special Achievement Award** – FMA departmental Teaching Assistantships provide 100% tuition support and a stipend for the student’s third, fourth, and fifth terms.
Admission Requirements and Deadlines

Application Deadline:

**Fall:** February 1; December 1 international

Applications are evaluated together after the deadline has passed. Late applications may be considered for admission. **To ensure funding consideration, however, applicants must submit an application and all supporting materials by January 4.**

**APPLY ONLINE to this graduate program.**

Letters of Reference:

**Number Required:** 3

**From Whom:** Letters of recommendation should be obtained from college/university faculty familiar with the applicant's academic competency and/or professionals in the fields of Communication or Media Production.

**Bachelor's Degree in Discipline/Related Discipline:** All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Applicants educated in China should review the information found on the Graduate School website regarding the submission of education documents to Temple University. See https://grad.temple.edu/admissions/international-applicants/before-you-apply. The admissions committee for the Film and Media Arts M.F.A. program will review your materials to determine your admissions status provided the required documentation is submitted in support of your application.

**Statement of Goals:** Approximately 1,000 to 1,500 words should explain your personal interests, your educational aims, and your professional goals, along with relevant biographical information.

**Standardized Test Scores:**

Applicants who earned their baccalaureate degree from an institution where the language of instruction was other than English, with the exception of those who subsequently earned a master's degree at a U.S. institution, must report scores for a standardized test of English that meet these minimums:

- TOEFL IBT: 100
- IELTS Academic: 7.0
- PTE Academic: 68

**Portfolio:** A portfolio is submitted as evidence of creative potential. This usually includes a completed film or videotape accompanied by a cover sheet to explain the applicant’s role in the project, including production date, running time, relevant credits, and the conditions and constraints under which it was produced. Other exceptional creative work in writing, art, music, still photography, computer arts, criticism, or research scholarship might be appropriate. Such work may also be used to supplement a film or video exhibit.

**Resume:** Current resume required.

**Transfer Credit:** The Film and Media Arts M.F.A. program accepts graduate credits completed in coursework related to the program. Acceptance of transfer credits is determined solely by the FMA committee. The maximum number of credits a student may transfer is 11.

Program Requirements

General Program Requirements:

**Number of Credits Required Beyond the Baccalaureate:** 54

**Required Courses:**

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<td>FMA 5241</td>
<td>Cinematography Workshop</td>
<td>4</td>
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<tr>
<td>FMA 5242</td>
<td>Videography</td>
<td>4</td>
</tr>
<tr>
<td>FMA 5361</td>
<td>Writing for Media I</td>
<td>4</td>
</tr>
<tr>
<td>FMA 5670</td>
<td>M.F.A. Colloquium (2 terms)</td>
<td>2</td>
</tr>
<tr>
<td>FMA 5671</td>
<td>Film History and Theory</td>
<td>3</td>
</tr>
<tr>
<td>FMA 5674</td>
<td>Media Arts Thry-Practice</td>
<td>4</td>
</tr>
<tr>
<td>FMA 9246</td>
<td>Thesis Production Workshop</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td><strong>Customized Course of Study</strong></td>
<td><strong>29</strong></td>
</tr>
</tbody>
</table>

Total Credit Hours: 54

1 Within the balance of the course of study for the degree, students choose coursework aligned with their interests. These customized courses must include 1 credit of thesis development with the chair of the student's thesis committee. After completion of the comprehensive examination, the student may also take up to 6 hours of thesis credits with her/his thesis committee chair.

Culminating Events:

**Faculty Reviews:**

Student work is evaluated by the FMA faculty near the end of the first year in a closed individual session in the First Year Reviews. Each student is asked to present her/his completed work and work in progress, along with an artistic statement that indicates future direction. Students are required to present their work again at the end of the second year in the Second Year Reviews. This is a community-wide event attended by FMA faculty, other M.F.A. students, and undergraduate students. Student participation in the First and Second Year Reviews is mandatory.

**Comprehensive Examination:**

The intent of the comprehensive examination is to offer the student the opportunity for creative synthesis of information and experience from coursework and beyond. Particularly, it is meant to encourage a strong theoretical, critical, and historical grounding for all creative production work. Each examination is tailored to the student's individual program. However, the questions are not restricted to courses taken by the student but are aimed at incorporating the entire field of study and practice.
The examination questions focus on major aspects of aesthetics, criticism, history, and media theory, and also may include issues of economics, institutions, management, media ethics, law, pedagogy, policy, regulations, social effects, and/or technology.

Typically, students take the comprehensive examination after completing 38 hours of coursework. The M.F.A. candidate forms a committee of three FMA faculty members and works with the committee to design four essay questions or subject areas that collectively represent a comprehensive breadth of study. A date for the exam is determined, and the candidate must complete approximately 10 pages of writing for each question.

The candidate submits a copy of the examination to each committee member. The committee reads the examination within two weeks and meets to evaluate the results. The committee members vote pass/fail on each individual question. Candidates may be asked to orally defend a questionable submission and/or rewrite one or more of the questions.

Final Project:
The student selects a thesis chair and forms a thesis committee comprised of three members. All may be FMA faculty or two may be FMA faculty and one from the outside. The student then proposes an M.F.A. final project. The project is evaluated on the basis of originality and creativity, treatment and style, professional competence, and significance of the work. In most cases, the project takes the form of a complete sound, film, or video production; a feature film script; or a completed work in an alternative media form, including computer-generated media, interactive media, installations, or newly emerging technologies.

The M.F.A. project committee evaluates project proposals individually for rigor, scope, length, and other specific criteria prior to the start of production. The committee then meets regularly with the candidate to provide ongoing critique/feedback. Upon completion of the M.F.A. project, the committee publicizes and holds a public screening of the project.

Contacts

Program Web Address:
https://www.temple.edu/academics/degree-programs/film-and-media-arts-mfa-ca-fma-mfa

Department Information:
Film and Media Arts Graduate Admissions
Center for the Performing and Cinematic Arts/School of Theater, Film and Media Arts
2001 N. 13th Street, 127 Presser Hall
Philadelphia, PA 19122-6016
FilmMFA@temple.edu
215-204-8598
Fax: 215-204-4957

Mailing Address for Application Materials:
Graduate Admissions
Center for the Performing and Cinematic Arts/School of Theater, Film and Media Arts
2001 N. 13th Street, 127 Presser Hall (012-00)
Philadelphia, PA 19122-6016

Department Contacts:
Admissions:
Paury Flowers
Recruitment Coordinator
FilmMFA@temple.edu

Graduate Program Director:
Sarah Drury
sdrury@temple.edu

Chairperson:
Paul Swann
paul.swann@temple.edu

mediaXarts: Cinema for New Technologies and Environments, M.A.

Center for the Performing and Cinematic Arts / SCHOOL OF THEATER, FILM AND MEDIA ARTS (https://tfma.temple.edu)


About the Program

The one-year, 30-credit master's program in mediaXarts: Cinema for New Technologies and Environments prepares students for professions in the creative design industries, interaction design for public organizations, and emergent cinematic art forms, including interactive cinema, projection design, media installation, user experience design, design for mobile media, net art, and social media. The mediaXarts M.A. program interfaces with the full range of Media Arts B.F.A., M.A., and M.F.A. curricula at Temple University, which are among the leading programs for interdisciplinary, alternative, and emerging media arts. The mediaXarts program trains artists who seek to challenge cinematic and arts conventions through narrative, non-narrative, and hybrid forms, including interactive installation, projection design for performance and architecture, mobile media app design, digital animation, game design, interactive fabrication, and new media studies. The curriculum engages the exciting interdisciplinary contexts of Temple's Center for the Performing and Cinematic Arts and Philadelphia's thriving arts scene.

Time Limit for Degree Completion: 3 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered at convenient times of the day and evening.

Interdisciplinary Study: The degree program allows media artists to:

• Engage in interdisciplinary art practices through collaborations across cinematic fields, theater, fine arts, humanities, the sciences, and visual research within Boyer College of Music and Dance and the School of Theater, Film and Media Arts in the Center for the Performing and Cinematic Arts, Tyler School of Art, and other programs within the University;

• Bridge analog and digital forms, from optical-printing and hand-painted film to projection design, mobile media, interactive cinema, physical computing, analog/digital animation, and installation arts; and
• Develop collaboration skills across the fields of media production, digital media arts, performing arts, and fine arts through curricular programs in the Center for the Performing and Cinematic Arts. With permission, students may also take courses at the Tyler School of Art.

Affiliations: Media artists work with Film and Media Arts faculty, who are leading artists making works for museums, public spaces, interactive cinema, mobile media, gallery installation, performance, projection, and the Web. mediaXarts students also work within Philadelphia’s vibrant art scene and local communities as well as through national and international networks.

Study Abroad: Media artists have opportunities for study-away experiences in Los Angeles, Tokyo, and Venice. Study-away experiences have to be balanced with the degree requirements of the program.

Ranking: Temple’s Film and Media Arts graduate programs are ranked among the top 10 film/video programs nationally and within the top three programs offered by public institutions.

Areas of Specialization: The faculty are international leaders with awards from Fulbright, Guggenheim, NEH, NEA, Pew, and Rockefeller, as well as major film, art, and publication credits. Faculty members specialize and offer coursework in:

• Digital Animation (2D and 3D)
• Digital Ethnography and New Documentary Forms
• Game, App, and Interactive Design
• Installation and Multi-Platform Design
• Media Production and Post-Production
• Physical Computing
• Projection Design for Theater, Performance, and Architecture
• Writing for Media

Job Prospects: Media artists go on to careers across the creative industries, culture, and education. For example, the M.F.A. program in Film and Media Arts has produced more Princess Grace and Eastman Scholar Award winners than any other school in recent decades.

Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits within the department at the discretion of individual instructors.

Financing Opportunities: Contact the department directly for more information.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1

Applications are evaluated together after the deadline has passed. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty familiar with the applicant’s academic competency and/or professionals in the fields of Communication or Media Production.

Bachelor's Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Applicants educated in China should heed the following information: Documents certified by the China Academic Degrees and Graduate Education Development Center (CDGDC) (https://www.chinadegrees.cn) or the China Higher Education Student Information and Career Center (CHESICC) (https://www.chsi.com.cn) are required for a full credential evaluation. Photocopies of transcripts, degree certificates, and diploma certificates are not considered official and are not acceptable substitutes for the official documentation. The admissions committee for the mediaXarts M.A. program will review your materials to determine your admissions status provided the required documentation is submitted in support of your application.

Statement of Goals: In approximately 500 words, explain your personal interests, your educational aims, and your professional goals, along with relevant biographical information.

Standardized Test Scores:

Applicants who earned their baccalaureate degree from an institution where the language of instruction was other than English, with the exception of those who subsequently earned a master’s degree at a U.S. institution, must present scores for a standardized test of English that meet these minimums:

• TOEFL iBT: 100
• IELTS Academic: 7.0
• PTE Academic: 68

Portfolio: A portfolio, with your role in each work clearly indicated, is submitted as evidence of creative potential. The works can include film, video, animation, visual art, examples of design, interactive work, or other media art forms, as well as writing, art, music, still photography, computer arts, criticism, or research scholarship, if appropriate.

Resume: Current resume required.

Transfer Credit: The mediaXarts M.A. program accepts graduate credits completed in coursework related to the program. Acceptance of transfer credits is determined solely by the Film and Media Arts committee. The maximum number of credits a student may transfer is 3.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

<table>
<thead>
<tr>
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<th>Credit Hours</th>
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<tr>
<td>FMA 5468</td>
<td>Art-Culture-Technology Seminar</td>
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</tr>
<tr>
<td>FMA 5674</td>
<td>Media Arts Thry-Practice</td>
<td>4</td>
</tr>
</tbody>
</table>

Electives

Three courses in Film and Media Arts 1 12
Two in Film and Media Arts or Outside the Department 6
Total Credit Hours 30

1 Students customize their course of study after completion of all required courses.

**Culminating Events:**

*Faculty Reviews:*
Student work is evaluated by the Film and Media Arts faculty near the end of the year in a closed individual session. Each student is asked to present her/his completed work and work in progress, along with an artistic statement that indicates future direction. Student participation in the End-of-Year Review is mandatory.

**Contacts**

*Program Web Address:*
https://www.temple.edu/academics/degree-programs/mediaarts-cinema-for-new-technologies-and-environments-ma-ca-mxar-ma

*Department Information:*
Film and Media Arts Graduate Admissions
Center for the Performing and Cinematic Arts/School of Theater, Film and Media Arts
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Philadelphia, PA 19122-6016

*Department Contacts:*

**Admissions:**
Paury Flowers
Recruitment Coordinator
FilmMFA@temple.edu

**M.A. Program Co-Directors:**
Roderick Coover
rcoover@temple.edu
Sarah Drury
sdrury@temple.edu

**Chairperson:**
Paul Swann
paul.swann@temple.edu

**Musical Theater Collaboration, M.F.A.**

Center for the Performing and Cinematic Arts / SCHOOL OF THEATER, FILM AND MEDIA ARTS (https://tfma.temple.edu)

Learn more about the Master of Fine Arts in Musical Theater Collaboration (https://www.temple.edu/academics/degree-programs/musical-theater-collaboration-mfa-ca-mtc-mfa).

**About the Program**

The George Abbott Master of Fine Arts in Musical Theater Collaboration is designed to prepare candidates for careers in the musical theater industry as collaborating creative team members and as independent artists engaged in the creation of new musical theater works for the commercial and non-profit sectors, as well as educational programs. The program emphasizes intensive graduate-level craft-based training that includes abundant studio, workshop, and production experience opportunities. Rather than the usual isolated pedagogical separation of the various craft and artistic disciplines within the field, the program places primary emphasis on the inherent collaborative nature of this most integrated of performing art forms.

The innovative degree in Musical Theater Collaboration is the only M.F.A. graduate training program in the nation designed to collectively train, mentor, and develop new composers, lyricists, directors, choreographers, playwrights, and book writers together as a cohort in a comprehensive collaborative program. The broad scope of the program includes a comprehensive overview and history of the field, a deep understanding of the aesthetics of the form, as well as the business side of the industry. The program seeks to mirror the actual field-based creative process of generating new musical theater works, teaching fundamental craft skills and collaboration skills within a world of access to the necessary mentoring and talent resources vital to the process of creating a new musical.

The three-year curriculum includes:

- A focus primarily on building creative collaboration skills in concert with studies based in students’ respective disciplinary areas of emphasis in Year 1.
- A continuation of disciplinary studies and division of the cohort into groups of collaboration teams focused on the creation of new music theater thesis pieces in Year 2.
- Year 3 is the thesis year, with a focus on bringing thesis projects to fruition such that they culminate in a fully realized workshop production. Further, they are presented in New York City in a subsequent industry showcase of excerpts of students’ work for the consideration of an invited roster of field and industry professionals.

**Time Limit for Degree Completion:** 3 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** Students complete the degree program as part of a cohort on a full-time basis.

**Interdisciplinary Study:** The program is interdisciplinary in nature, given that composers and composer/lyricists, directors and director/choreographers, and playwrights and book writers learn and create together.

**Accreditation:** The Theater Department is accredited by the National Association of Schools of Theatre (NAST).

**Areas of Specialization:** Within the cohort, students concentrate in one of three areas:

- Composer and Composer/Lyricist (C/CL)
• Director and Director/Choreographer (D/DC)
• Playwright and Book Writer (P/BW)

**Job Prospects:** The program prepares candidates for careers in the musical theater industry or academy as collaborating creative team members and as independent artists engaged in the creation of new musical theater works.

**Non-Matriculated Student Policy:** Coursework may not be taken on a non-matriculated basis.

**Financing Opportunities:** Lab, studio, and classroom teaching opportunities are available for Teaching Assistants. Duties include assisting in grading papers for survey and literature classes. Assistantships carry a stipend and full tuition remission. Academic Internships are also available in production work, including rehearsal and performance of plays for the theater season.

**Admission Requirements and Deadlines**

**Application Deadline:**

*Fall:* March 1, 2021

**Letters of Reference:**

*Number Required:* 3

*From Whom:* Letters of recommendation should be obtained from college/university professors and/or professionals in the field who are familiar with the applicant’s work.

**Coursework Required for Admission Consideration:** Applicants must have completed a bachelor’s degree or equivalent and ideally have professional experience in their discipline.

**Bachelor’s Degree in Discipline/Related Discipline:** All applicants must present credentials that are the equivalent of the baccalaureate degree at Temple University.

**Statement of Goals:** Introduce yourself in approximately 500 words by relaying your relevant experience, values, and areas of interest. Proper essay form should be used, but it may be in a personal style.

**Standardized Test Scores:** No standardized test is used for admission to the M.F.A. in Musical Theater Collaboration program.

**Interview:** Interviews are generally conducted in March and April through URTA, with audition sites in New York, Chicago, and San Francisco, as well as locally on the Temple University campus. Applicants called back for an interview are required to bring transcripts, a headshot, and a resume.

**Resume:** Current resume required.

**Other Requirements:**

- Composer and Composer/Lyricist (C/CL): Via Acceptd (https://getacceptd.com), submit samples of creative work, portfolio, reviews, and/or website.
- Director and Director/Choreographer (D/DC): Via Acceptd (https://getacceptd.com), submit a reel of creative work, production photos, reviews, and/or website.
- Playwright and Book Writer (P/BW): Submit a writing sample that is either one full-length manuscript or two one-act scripts.

**Program Requirements**

**General Program Requirements:**

*Number of Credits Required Beyond the Baccalaureate: 60*

**Required Courses:**

In Year 1, foundation coursework is taken. In Year 2, thesis project teams are formed and collaboration begins. In Year 3, the thesis projects are completed, presented, and showcased for industry.

All students enrolled in a cohort of the Musical Theater Collaboration M.F.A. program take the following core courses together:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>THTR 5012</td>
<td>American Musical Theater</td>
<td></td>
</tr>
<tr>
<td>THTR 5487</td>
<td>Musical Theater Practicum I</td>
<td></td>
</tr>
<tr>
<td>THTR 5587</td>
<td>Musical Theater Practicum II</td>
<td></td>
</tr>
<tr>
<td>THTR 5892</td>
<td>Script and Score Analysis</td>
<td></td>
</tr>
<tr>
<td>THTR 5804</td>
<td>Dramaturgy</td>
<td></td>
</tr>
<tr>
<td>THTR 5873</td>
<td>Adaptation</td>
<td></td>
</tr>
<tr>
<td>THTR 9487</td>
<td>Musical Theater Practicum III</td>
<td></td>
</tr>
<tr>
<td>THTR 9587</td>
<td>Musical Theater Practicum IV</td>
<td></td>
</tr>
<tr>
<td>THTR 5287</td>
<td>Rehearsal/Performance</td>
<td></td>
</tr>
<tr>
<td>THTR 5392</td>
<td>The Business of the Business in Theater</td>
<td></td>
</tr>
<tr>
<td>THTR 9991</td>
<td>Research</td>
<td></td>
</tr>
<tr>
<td>THTR 9995</td>
<td>Thesis</td>
<td></td>
</tr>
</tbody>
</table>

The balance of coursework annually is taken by students in their respective areas of concentration:

**Composer and Composer/Lyricist (C/CL) Concentration**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tr>
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<td>Composition</td>
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<td>THTR 5893</td>
<td>Lyric Seminar I</td>
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<tr>
<td>THTR 5894</td>
<td>Lyric Seminar II</td>
<td></td>
</tr>
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</table>
Schools, Colleges, and Divisions

THTR 8983 Vocal Arranging

Year 2

MUST 8480 Special Topics in Music
MUST 8717 Composition
THTR 9001 Lyrics/Book Seminar I
THTR 9002 Lyrics/Book Seminar II

Year 3

THTR 9894 Music Direction for the Musical Theater Stage

Students in the Composer and Composer/Lyricist (C/CL) and in the Playwright and Book Writer (P/BW) concentrations take this course together.

Director and Director/Choreographer (D/DC) Concentration

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
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<tr>
<td>THTR 5387</td>
<td>Directing Practicum I</td>
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<tr>
<td>THTR 5388</td>
<td>Directing Practicum II</td>
<td></td>
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<tr>
<td>THTR 8611</td>
<td>Costume Design II</td>
<td></td>
</tr>
<tr>
<td>THTR 8711</td>
<td>Scene Design II</td>
<td></td>
</tr>
<tr>
<td>Year 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>THTR 5613</td>
<td>History of Decor</td>
<td></td>
</tr>
<tr>
<td>THTR 9382</td>
<td>Projects in Directing I</td>
<td></td>
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<tr>
<td>THTR 9387</td>
<td>Directing Practicum III</td>
<td></td>
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<tr>
<td>THTR 9388</td>
<td>Directing Practicum IV</td>
<td></td>
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<tr>
<td>Year 3</td>
<td></td>
<td></td>
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<tr>
<td>THTR 5134</td>
<td>Directing for the Musical Stage 1</td>
<td></td>
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<tr>
<td>THTR 5625</td>
<td>History of Fashion</td>
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<tr>
<td>THTR 9383</td>
<td>Projects in Directing II</td>
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Students in the Director and Director/Choreographer (D/DC) and in the Playwright and Book Writer (P/BW) concentrations take this course together.

Playwright and Book Writer (P/BW) Concentration

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<th>Credit Hours</th>
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<tr>
<td>THTR 5871</td>
<td>Playwriting I</td>
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<tr>
<td>THTR 5872</td>
<td>Playwriting II</td>
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<tr>
<td>THTR 9882</td>
<td>Projects in Playwriting</td>
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<tr>
<td>Year 2</td>
<td></td>
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<td>THTR 8881</td>
<td>Playwriting III</td>
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<td>THTR 8882</td>
<td>Playwriting IV</td>
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<tr>
<td>THTR 9001</td>
<td>Lyrics/Book Seminar I 1</td>
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<tr>
<td>THTR 9002</td>
<td>Lyrics/Book Seminar II 1</td>
<td></td>
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<tr>
<td>Year 3</td>
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<tr>
<td>THTR 5134</td>
<td>Directing for the Musical Stage 2</td>
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<tr>
<td>THTR 8883</td>
<td>Teaching Playwriting</td>
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<tr>
<td>THTR 9982</td>
<td>Projects in Playwriting</td>
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</tbody>
</table>

1 Students in the Composer and Composer/Lyricist (C/CL) and in the Playwright and Book Writer (P/BW) concentrations take this course together.
2 Students in the Director and Director/Choreographer (D/DC) and in the Playwright and Book Writer (P/BW) concentrations take this course together.

Culminating Events:

Thesis Project:
The cohort creates a complete new musical culminating in a fully rehearsed workshop production. It is written by M.F.A. candidate composers and composer/lyricists, as well as playwrights and book writers, and directed by M.F.A. candidate directors and director/choreographers.

Showcase:
An industry showcase of students' selected work is presented in New York City to an invited roster of industry and field professionals. Funded in part by the George and Joy Abbott Center for Musical Theater at Temple University, the showcase consists of a short concert-style presentation featuring selected performed excerpts from the candidates' body of original work.

Contacts

Program Web Address:
https://www.temple.edu/academics/degree-programs/musical-theater-collaboration-mfa-ca-mtc-mfa

Department Information:
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Department Contacts:

Admissions:
Paury Flowers
Recruitment Coordinator
tfma@temple.edu

Head of Musical Theater:
Peter Reynolds
peterr@temple.edu

Chair:
Fred Duer
fmduer@temple.edu
Musical Theater Studies, M.A.

Center for the Performing and Cinematic Arts / SCHOOL OF THEATER, FILM AND MEDIA ARTS (https://tfma.temple.edu)

Learn more about the Master of Arts in Musical Theater Studies (https://www.temple.edu/academics/degree-programs/musical-theater-studies-ma-ca-mtst-ma).

About the Program

The Master of Arts in Musical Theater Studies is designed for graduate students to continue their education and practice in the disciplines of acting, music, and dance/movement in preparation for careers in education, performance, production, or direction. The Center for the Performing and Cinematic Arts, comprised of constituent faculty and programs within the Department of Theater in collaboration with sister faculty and programs in the Boyer College of Music and Dance, is ideally suited to offer such a progressive degree opportunity. Both faculties are professionally experienced in Musical Theater as performers, directors, designers, musicians, and administrators, all notable and proven teachers with enviable records of success both professionally and academically.

Historically, students wanting to pursue a graduate musical theater degree in the United States had to choose between a Master of Fine Arts and a Master of Music, given that master's degree programs in musical theater were rare. Today, Temple University's M.A. in Musical Theater Studies is the only M.A. in Musical Theater Studies with a curriculum that combines classroom study with practical training in musical theater performance, including acting, directing, choreographing, and educating equally in all areas of musical theater production and performance. The curriculum reflects current institutional trends supporting interdisciplinary study in the performing arts, as well as the efficiency of a 30-hour, one-year program.

Time Limit for Degree Completion: 3 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered at convenient times of the day and evening.

Interdisciplinary Study: By its very nature, the program is interdisciplinary. The curriculum interweaves study in acting, music, and dance.

Accreditation: The Theater Department is accredited by the National Association of Schools of Theatre (NAST).

Job Prospects: The degree serves as a bridge for further specialization in the area of musical theater for students coming from the various genres of music, theater, and dance who want seeker more advanced graduate education. Skills acquired in teaching and producing musicals in primary and secondary education could lead to immediate employment. The skills and expertise acquired would also apply to educational positions and outreach programs affiliated with professional theaters.

Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits within the department at the discretion of individual instructors.

Admission Requirements and Deadlines

Application Deadline:

Fall: February 1

Applications are evaluated together after the deadline has passed. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty familiar with the applicant's academic competency and/or from professionals in the fields of Theater, Music, or Dance.

Bachelor's Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Statement of Goals: In approximately 500 words, explain your personal interests, your educational aims, and your professional goals, along with relevant biographical information.

Standardized Test Scores:

Applicants who earned their baccalaureate degree from an institution where the language of instruction was other than English, with the exception of those who subsequently earned a master's degree at a U.S. institution, must report scores for a standardized test of English that meet these minimums:

- TOEFL iBT: 100
- IELTS Academic: 7.0
- PTE Academic: 68

Resume: Current resume required.

Transfer Credit: The M.A. program in Musical Theater Studies accepts graduate credits completed in coursework relevant to the program. Acceptance of transfer credits is determined solely by the Musical Theater committee. The maximum number of credits a student may transfer is 3.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

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<tr>
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</thead>
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<td>THTR 5012</td>
<td>American Musical Theater</td>
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</tr>
<tr>
<td>THTR 5134</td>
<td>Directing for the Musical Stage</td>
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<tr>
<td>THTR 5392</td>
<td>The Business of the Business in Theater</td>
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<tr>
<td>THTR 5804</td>
<td>Dramaturgy</td>
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<tr>
<td>MUED 2675</td>
<td>Inclusive Vocal Development: Pre-Kindergarten - Secondary</td>
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<td>MUED 4666</td>
<td>Assessment of Music Learning</td>
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<tr>
<td>MUSC 8205</td>
<td>Musical Theater Voice and Acting</td>
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<tr>
<td>MUSC 8206</td>
<td>Musical Theater Scene Study</td>
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</tr>
<tr>
<td>THTR 5121</td>
<td>Musical Theater Dance Techniques</td>
<td></td>
</tr>
</tbody>
</table>

Electives: 18

Current resume required.

Transfer Credit: The M.A. program in Musical Theater Studies accepts graduate credits completed in coursework relevant to the program. Acceptance of transfer credits is determined solely by the Musical Theater committee. The maximum number of credits a student may transfer is 3.
THTR 5211 Speech for the Actor I
THTR 5231 Vocal Production for the Actor I
THTR 5232 Vocal Production for the Actor II
THTR 5241 Dance for the Actor I
THTR 5242 Dance for the Actor II
THTR 5288 Rehearsal & Performance
THTR 5892 Script and Score Analysis
THTR 8321 Costume Production
THTR 8511 Lighting Design II
THTR 8611 Costume Design II
THTR 8641 Theatrical Makeup
THTR 8711 Scene Design II
THTR 9282 Project in Acting
THTR 9382 Projects in Directing I
THTR 9991 Research
THTR 9995 Thesis

Total Credit Hours 30

Culminating Events:

Master's Thesis:
A final performance, demonstration project, and/or research paper is required. The student works with a thesis advisor, as assigned, until the project is completed. Prior to graduation, students make a formal presentation of their thesis for Theater faculty, students, and invited guests. Detailed guidelines for a written M.A. thesis process and evaluation are found in the Graduate Handbook.

Contacts

Program Web Address:
https://www.temple.edu/academics/degree-programs/musical-theater-studies-ma-ca-mtst-ma

Department Information:

Theater Graduate Admissions
Center for the Performing and Cinematic Arts/School of Theater, Film and Media Arts
2001 N. 13th Street, 127 Presser Hall
Philadelphia, PA 19122-6016
tfma@temple.edu
215-204-8598
Fax: 215-204-4957

Mailing Address for Application Materials:

Graduate Admissions
Center for the Performing and Cinematic Arts/School of Theater, Film and Media Arts
2001 N. 13th Street, 127 Presser Hall (012-00)
Philadelphia, PA 19122-6016

Department Contacts:

Admissions:
Paury Flowers
Recruitment Coordinator
tfma@temple.edu

M.A. Program Co-Directors:
Peter Reynolds
peterr@temple.edu
Maggie Anderson
maggie.anderson@temple.edu

Chair:
Fred Duer
fmduer@temple.edu

Theater/Acting, M.F.A.

Center for the Performing and Cinematic Arts / SCHOOL OF THEATER, FILM AND MEDIA ARTS (https://tfma.temple.edu)

Learn more about the Master of Fine Arts in Theater/Acting (https://www.temple.edu/academics/degree-programs/theater-acting-mfa-ca-thac-mfa).

About the Program

The M.F.A. program in Theater/Acting provides holistic actor training modeled after the conservatory approach. We are interested in actors with professional resumes who are willing to commit to a three-year regimen of study and performance. A twofold objective guides the graduate Acting program: assist professional actors in breaking through patterns or habits that have been holding back artistic growth; and develop a method for training that enables actors to effectively articulate the process to the student.

Time Limit for Degree Completion: 3 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered before and after 4:30 p.m.

Interdisciplinary Study: Students are able to take some coursework with graduate students in Film and Media Arts and may participate, on a voluntary basis, in independent films directed by graduate and undergraduate directors in Film and Media Arts.

Affiliation(s): Temple theater students have the opportunity to intern with many of the numerous professional theaters in Philadelphia, including the Arden Theatre, the Philadelphia Theatre Company, the Walnut Street Theater, and the Wilma Theater.

Ranking: The Theater Department’s M.F.A. program was rated 13th for graduate theater programs in 2012 by U.S. News & World Report.

Accreditation: The Theater Department is accredited by the National Association of Schools of Theatre (NAST).

Areas of Specialization: The actor is offered a well-rounded acting curriculum in addition to pedagogical training in teaching in higher education.

Job Prospects: The program is primarily focused on training working mid-career professionals in the theater industry. Many of our graduates are working in television, film, regional theater, off-Broadway, and Broadway and as instructors and professors in higher education.

Non-Matriculated Student Policy: Coursework may not be taken on a non-matriculated basis.

Financing Opportunities: Lab, studio, and classroom teaching opportunities are available for Teaching Assistants. Duties include
assisting in grading papers for survey and literature classes. Assistantships carry a stipend and full tuition remission. Academic internships are also available in production work, including rehearsal and performance of plays for the theater season.

**Admission Requirements and Deadlines**

**Application Deadline:**

*Fall:* January 15, 2021

**APPLICATIONS will next be accepted for FALL 2021 ADMISSION**

Applications are accepted from applicants through the University/Resident Theatre Association (URTA) audition/interview process as well as local auditions in Philadelphia. Auditions are held every three years (e.g., 2021, 2024, 2027). We visit all three sites: New York City, Chicago, and San Francisco. After candidates have auditioned and been interviewed through the URTA process or here locally, those accepted are notified by letter on or before April 15.

**APPLY ONLINE to this graduate program.**

**Letters of Reference:**

**Number Required:** 3

**From Whom:** Letters of recommendation should be obtained from college/university professors and/or professionals in the field who are familiar with the applicant's work.

**Coursework Required for Admission Consideration:** Applicants must have completed a bachelor's degree or equivalent and ideally have considerable professional experience as working actors.

**Bachelor's Degree in Discipline/Related Discipline:** All applicants must present credentials that are the equivalent of the baccalaureate degree at Temple University.

**Statement of Goals:** Introduce yourself in approximately 500 words by relaying your relevant experience, values, and areas of interest. Proper essay form should be used, but it may be in a personal style.

**Standardized Test Scores:** No standardized test is used for admission to the M.F.A. Acting program.

**Audition:** We audition through URTA with audition sites in New York, Chicago, and San Francisco and locally on the Temple University campus.

**Interview:** In addition to the audition, applicants who are called back for an interview are required to bring transcripts, a headshot, and a resume. Interviews are generally held in February and March.

**Resume:** Current resume required.

**Program Requirements**

**General Program Requirements:**

**Number of Credits Required Beyond the Baccalaureate:** 60

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>THTR 5211</td>
<td>Speech for the Actor I</td>
<td></td>
</tr>
</tbody>
</table>

**Culminating Events:**

Completion of the degree is predicated on successfully completing required coursework and maintaining collegial relationships with faculty and fellow students. No formal thesis or other culminating event is required.

**Contacts**

**Program Web Address:**

https://www.temple.edu/academics/degree-programs/theater-acting-mfa-ca-thac-mfa

**Department Information:**

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Center for the Performing and Cinematic Arts/School of Theater, Film and Media Arts
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**Mailing Address for Application Materials:**

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Center for the Performing and Cinematic Arts/School of Theater, Film and Media Arts
2001 N. 13th Street, 127 Presser Hall (012-00)
Department Contacts:

Admissions:
Paury Flowers
Recruitment Coordinator
tfma@temple.edu

Head of Graduate Acting:
Lynne Innerst
innerst@temple.edu

Chair:
Fred Duer
fmduer@temple.edu

Theater/Design, M.F.A.

Center for the Performing and Cinematic Arts / SCHOOL OF THEATER, FILM AND MEDIA ARTS (https://tfma.temple.edu)


About the Program

The Theater/Design M.F.A. program offers a professional training curriculum wherein M.F.A. designers and technicians collaborate with professional faculty, staff, and guest artists to stage exciting contemporary theater for diverse audiences. We are looking for aspiring designers who will pursue the intent of the play wherever it leads them, into any period or style, into any emotion or state of mind, and whose knowledge and skills are so various that they bring a rich theatricality to the worlds they create. The Design program for Theater combines intensive classroom work with full-scale productions to create well-rounded designers and technicians. Our graduates find work in many aspects of theater, including regional theater, educational theater, and the entertainment industry.

Time Limit for Degree Completion: 3 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered before and after 4:30 p.m.

Interdisciplinary Study: Design students are encouraged to explore other fields of study, such as art history, cinematography, and photography, as their fields of study allow.

Affiliation(s): The Theater Department has informal affiliations with Freedom Theatre, The Lighting Practice, and the Philadelphia Theatre Company. With special permission from their advisors, students have the opportunity to intern at these and other professional theaters and production companies in the greater Philadelphia area. The Theater Department is a member of the Association for Theatre in Higher Education (ATHE), National Association of Schools of Theatre (NAST), University/Resident Theatre Association (URTA), and the United States Institute for Theatre Technology (USITT).

Ranking: The Theater Department's M.F.A. program was rated 13th for graduate theater programs in 2012 by U.S. News & World Report.

Accreditation: The Theater Department is accredited by the National Association of Schools of Theatre (NAST).

Areas of Specialization: Each student, in consultation with the faculty, develops her/his own program of study based on individual interests and talent. Full-time faculty members are available for mentoring. Students may specialize in one or more of the following areas:

- Costume Design
- Lighting Design
- Scenic Design

Job Prospects: The program is primarily focused on training students for careers in the theater industry. Graduates of the Theater/Design program find employment in regional theater, higher education, and the entertainment industries.

Non-Matriculated Student Policy: Along with all university approvals, non-matriculated students are required to get written approval by the instructor for each class they wish to take.

Financing Opportunities: Assistantships carry a stipend for working 20 hours per week in the shop of a student's respective design discipline and full-tuition remission. Lab, studio, and classroom teaching opportunities are available.

Admission Requirements and Deadlines

Application Deadline:
Fall: February 1

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university professors and professionals in the field who are familiar with the applicant's work.

Bachelor's Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Standardized Test Scores:
Applicants who earned their baccalaureate degree from an institution where the language of instruction was other than English, with the exception of those who subsequently earned a master's degree at a U.S. institution, must report scores for a standardized test of English that meet these minimums:

- TOEFL iBT: 79
- IELTS Academic: 6.5
- PTE Academic: 53

Portfolio: A portfolio is required of all applicants. The portfolio should contain examples of work, ranging from design projects, classroom exercises, and fine art to realized designs. The portfolio should include the complete process for at least one show, including script analysis, concept statement, research materials, sketches, renderings, models, appropriate paperwork, and production photography (if applicable).
Interview: An interview is required of all applicants, and a campus visit is highly recommended. An interview can be held on campus or during the University/Resident Theatre Association (URTA) National Unified Interviews in Chicago at the end of January of the preceding academic year. Candidates are not required to interview through the URTA process, but are strongly encouraged to do so. Please see the URTA website, found at http://www.urta.com/, for more information. The deadline for participation in the URTA interview process is the middle of November of the preceding academic year.

Resume: Current resume required.

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 60

The Theater/Design M.F.A. curriculum follows a three-year cycle. Specific course order is based on when a student starts her/his program.

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Seminar in Dramatic Literature</td>
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<tr>
<td></td>
<td>Scenic Design</td>
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</tr>
<tr>
<td></td>
<td>Costume Design</td>
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<tr>
<td></td>
<td>Lighting Design</td>
<td></td>
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<td></td>
<td>Design for TV and Film</td>
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<td></td>
<td>History of Decor</td>
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<td></td>
<td>History of Fashion</td>
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<td></td>
<td>Drawing and Rendering Techniques</td>
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<td></td>
<td>Draping and Flat Pattern Drafting</td>
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<tr>
<td></td>
<td>Costume Crafts</td>
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<tr>
<td></td>
<td>Theatrical Model Making</td>
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<tr>
<td></td>
<td>Scene Painting</td>
<td></td>
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<tr>
<td></td>
<td>Projection and Media Design</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The Job Market</td>
<td></td>
</tr>
</tbody>
</table>

Additional Requirements:

As a component of the three-year M.F.A. degree program, all Theater/Design candidates actively participate in design and production work in the Theater Department’s main stage season. This work is an extension of what is presented in the classroom and becomes the experiential component to the degree program. Coursework and production work are equally balanced throughout the academic year, both philosophically and pedagogically.

All Design students must participate in a portfolio review and faculty evaluation at the end of each semester.

Culminating Events:

Thesis:
The master’s thesis is typically a realized and produced production executed by the Theater Department as part of its main stage season. The underlying premise is to create and produce a professional design within a professional production. Along with gathering all research and creating all designs, drafts, renderings, models, and appropriate paperwork for the design, fulfilling a written thesis component completes the degree process. The thesis production and document are defended before a faculty committee and then digitally published through Temple University.

In some cases, where appropriate, a "paper" thesis may be assigned. In this case, the candidate completes all the same research, designs, drafts, renderings, models, and a written document defending the design and the process, but the design will neither be realized nor produced.

Contacts

Program Web Address:
https://www.temple.edu/academics/degree-programs/theater-design-mfa-ca-thds-mfa

Department Information:

Graduate Admissions
Center for the Performing and Cinematic Arts/School of Theater, Film and Media Arts
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Department Contacts:

Admissions:
Paury Flowers
Recruitment Coordinator
tfma@temple.edu

Head of Graduate Design:
Fred Duer
Scenic Design
fmduer@temple.edu

Costume Design Area Head:
Marie Anne Chiment
chiment@temple.edu

Chair:
Fred Duer
fmduer@temple.edu

Theater/Directing, M.F.A.

Center for the Performing and Cinematic Arts / SCHOOL OF THEATER, FILM AND MEDIA ARTS (https://tfma.temple.edu)

About the Program

The focus of the M.F.A. program in Theater/Directing is to develop the directing student as a visionary creative communicator and artistic leader. Directing students are trained to be fully capable of illuminating a text through the exploration of character in collaboration with the writer, actors, and design/production team and of delivering a compelling and unified theatrical storytelling event to the audience.

Time Limit for Degree Completion: 3 years

Campus Location: Main

Full-Time/Part-Time Status: Full-time study is required.

Interdisciplinary Study: Students can take coursework in film with graduate students in Film and Media Arts.

Affiliation(s): Temple theater students have the opportunity to intern with many of the numerous professional theaters in Philadelphia, including the Arden Theatre Company, the Lantern Theater Company, the Philadelphia Theatre Company, the Prince Music Theater, and The Wilma Theater.

Ranking: The Theater Department's M.F.A. program was rated 13th for graduate theater programs in 2012 by U.S. News & World Report.

Accreditation: The Theater Department is accredited by the National Association of Schools of Theatre (NAST) and is a founding member of the University/Resident Theatre Association (URTA).

Areas of Specialization: The goal of the program is to develop the director as a master “storyteller.” Students focus on learning, through the study of craft-based pedagogy, about the director’s primary commitment to the illumination of text for an audience through the work of the actor; through design, staging, thematic, and theatrical interpretation; and through artistic/team collaboration and leadership.

Job Prospects: The program is primarily focused on training students for careers in professional theater.

Non-Matriculated Student Policy: Coursework may not be taken on a non-matriculated basis.

Financing Opportunities: Based on the number of assistantships allocated to the program, three-year Teaching Assistantships are awarded to students upon acceptance into the program. The award provides both a stipend and tuition remission (either full or half). Fellowships are occasionally awarded to exceptionally qualified, eligible students.

Admission Requirements and Deadlines

Application Deadline:

Fall: January 15, 2021

** APPLICATIONS will next be accepted for FALL 2021 ADMISSION **

The M.F.A. Directing program recruits applicants through the National Unified Auditions and Interviews (NUAIs) conducted by University/Resident Theatre Association (URTA) in New York and Chicago. We currently recruit a minimum of two candidates every three years. The next class will be admitted for Fall 2021. Those interested in our program are strongly encouraged to apply at http://urta.com/ when appropriate. Applications are thoroughly screened, and top candidates are invited to interview at one of the URTA audition sites or at Temple University. After all candidates have been interviewed, those accepted are notified by letter by April 15. Candidates unable to interview as part of the NUAIs should adhere to the criteria listed below.

All candidates must also complete the formal Temple University Graduate School application. APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university professors and professionals in the field who are familiar with the applicant's work.

Coursework Required for Admission Consideration:

Coursework in Theater, typically completed as part of an undergraduate major in Theater, is required.

Bachelor's Degree in Discipline/Related Discipline: The B.A. in Theater or B.F.A. degree in Acting, Design, or Directing is preferred.

Statement of Goals: Introduce yourself in approximately 500 words by relaying your relevant experience, values, and areas of interest. Proper essay form should be used, but it may be in a personal style.

Standardized Test Scores:

Applicants who earned their baccalaureate degree from an institution where the language of instruction was other than English, with the exception of those who subsequently earned a master’s degree at a U.S. institution, must report scores for a standardized test of English that meet these minimums:

- TOEFL iBT: 79
- IELTS Academic: 6.5
- PTE Academic: 53

Interview: The applicant meets with appropriate faculty, either through URTA at audition sites in New York and Chicago or on Temple University's Main Campus.

Resume: Current resume required.

Other: In addition to a baccalaureate degree, applicants must have a body of professional or semi-professional experience in Directing.

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 60

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>FMA 5341</td>
<td>Scene Analysis for Writers and Directors</td>
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<tr>
<td>THTR 5221</td>
<td>Acting I (graduate level)</td>
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</tr>
<tr>
<td>THTR 5232</td>
<td>Vocal Production for the Actor II</td>
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<tr>
<td>THTR 5398</td>
<td>Directing Practicum II (six terms)</td>
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<tr>
<td>THTR 5804</td>
<td>Dramaturgy</td>
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<tr>
<td>THTR 8001</td>
<td>Seminar in Dramatic Literature</td>
<td></td>
</tr>
<tr>
<td>THTR 8002</td>
<td>Seminar in Dramatic Literature</td>
<td></td>
</tr>
<tr>
<td>THTR 8611</td>
<td>Costume Design II</td>
<td></td>
</tr>
</tbody>
</table>
THTR 9242  Dance for the Actor VI (LeCoq Technique)
THTR 9282  Project in Acting
THTR 9383  Projects in Directing II (six terms)
THTR 9511  Seminar in Lighting I
THTR 9882  Projects in Playwriting
THTR 9995  Thesis

Proposed Progressive Coursework Outlined by Year:

<table>
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<th>Title</th>
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<tbody>
<tr>
<td><strong>Year 1</strong></td>
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<tr>
<td>THTR 5221</td>
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<tr>
<td>THTR 5388</td>
<td>Directing Practicum II (two terms of seminar and scene work in Realism)</td>
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<td>THTR 8001</td>
<td>Seminar in Dramatic Literature</td>
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<td>THTR 8002</td>
<td>Seminar in Dramatic Literature</td>
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<td>THTR 9283</td>
<td>Projects in Acting</td>
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<td></td>
<td>&gt; M.F.A. One Acts</td>
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<td></td>
<td>&gt; M.F.A. PlayFest project (staged reading of new play)</td>
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<tr>
<td><strong>Year 2</strong></td>
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<tr>
<td>THTR 5388</td>
<td>Directing Practicum II (two terms of seminar and scene work)</td>
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<tr>
<td></td>
<td>&gt; Shakespeare technique/practicum</td>
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<tr>
<td></td>
<td>&gt; Comedy survey/technique/practicum</td>
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<td>THTR 5804</td>
<td>Dramaturgy</td>
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<td>Dance for the Actor VI (LeCoq Technique)</td>
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<td>THTR 9383</td>
<td>Projects in Directing II</td>
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<tr>
<td></td>
<td>&gt; Shakespeare Project</td>
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<td></td>
<td>&gt; M.F.A. PlayFest project (staged reading of new play)</td>
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<td>THTR 9511</td>
<td>Seminar in Lighting I</td>
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<td>THTR 9882</td>
<td>Projects in Playwriting</td>
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<td><strong>Year 3</strong></td>
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<td>FMA 5341</td>
<td>Scene Analysis for Writers and Directors</td>
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<tr>
<td>THTR 5388</td>
<td>Directing Practicum II (two terms of seminar and scene work)</td>
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<td></td>
<td>&gt; Musical Theater directing practicum</td>
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<td></td>
<td>&gt; Self-created ensemble-based work project</td>
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<td>THTR 9383</td>
<td>Projects in Directing II</td>
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<tr>
<td></td>
<td>&gt; Serial TV project</td>
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<tr>
<td></td>
<td>&gt; M.F.A. PlayFest project (staged reading of new play)</td>
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<tr>
<td>THTR 9995</td>
<td>Thesis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; Thesis Production (main season fully supported production)</td>
<td></td>
</tr>
</tbody>
</table>

**Additional Requirements:**

*First Year:*
Students direct scenes plus a one-act play in the studio theater and serve as assistant to the director of a main stage show.

*Second Year:*

Scene work continues. Students also direct two unsupported projects in the studio theater.

*Third Year:*
Students direct a thesis production. This is a fully supported production that is part of the main stage season. During the alternate term, an opportunity may exist for an internship to assist or direct in one of the professional theaters in the Philadelphia area. This choice requires faculty approval. An additional option is an unsupported project to allow the student to explore personal interest or career objectives in theater.

**Practical Application (in addition to coursework):**

*First Year/Fall Term: Practical focus is on the short scene (5-10 minutes). Three scenes are presented to the department with a focus primarily on contemporary realism.*

*First Year/Spring Term: Continued practical focus is on directing scenes from acknowledged 20th-century classics.*

*Second Year/Fall Term: Practical focus is on Shakespeare, culminating in the presentation of a Shakespeare scene project.*

*Second Year/Spring Term: Practical focus is on scene work from a variety of non-realistic genres and styles, including the study of comedy.*

*Second Year: Potential opportunity exists to direct a minimally supported full-length production during one of the terms.*

*Third Year/Fall Term: Practical focus is on new work, including self-created ensemble-based work.*

*Third Year/Spring Term: Practical focus is on the serial television project as well as musical theater.*

**Culminating Events:**

*Thesis:*
One fully supported thesis project is produced in the main season during the third year. This is accompanied by a detailed, comprehensive written thesis, which includes an account of the research and script analysis that preceded the rehearsal process, a director’s rehearsal log, and the student’s evaluation of the production. The student meets with appropriate faculty after the production has closed for discussion and evaluation of both the process and the production. Faculty members look systematically at all aspects of the theater production and evaluate the student in terms of what was attempted and what was achieved. Theatrical concept, unity of design and stylistic approach, the visual and aural components of storytelling, and ensemble work of the actors are evaluated from the point of view of directing, acting, and design.

**Contacts**

**Program Web Address:**
https://www.temple.edu/academics/degree-programs/theater-directing-mfa-ca-thdi-mfa

**Department Information:**
Theater Graduate Admissions
Center for the Performing and Cinematic Arts/School of Theater, Film and Media Arts
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Department Contacts:
Admissions:
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Recruitment Coordinator
tfma@temple.edu

Chair:
Fred Duer
fmduer@temple.edu

Theater/Playwriting, M.F.A.
Center for the Performing and Cinematic Arts / SCHOOL OF THEATER, FILM AND MEDIA ARTS
(https://tfma.temple.edu)


About the Program
The Theater/Playwriting M.F.A. program is dedicated to developing the unique voice of each writer and equipping her/him with skills necessary to sustain a life as an artist. Core coursework provides rigorous training with attention to craft in a range of forms. Additional courses emphasize the collaborative nature of theater-making and provide an environment for creating a network of fellow artists from across disciplines. The curriculum is designed to allow writers to explore areas of interest both within the School of Theater, Film and Media Arts, and outside of it, including research in areas such as African American Studies, Anthropology, Art History, Music, or Women's Studies in augmentation of a particular project or idea. Class sizes are small, with individualized instruction as a priority.

Our interest is in training playwrights for artistic success in both current and potential future landscapes. We seek students who are motivated by a desire for passionate self-expression and a sense of social purpose. The program sits within the context of our highly regarded acting, design, and directing programs and the vibrant, diverse theater community of Philadelphia.

Time Limit for Degree Completion: 5 years

Campus Location: Main, Center City

Affiliation(s): Contacts are maintained with professional theaters with new play programs.

Study Abroad: No formal relationships exist, but study abroad programs in the School of Media and Communication are available. London and Dublin programs include theater visits and can include courses or internships.

Ranking: The Theater Department's M.F.A. program was rated 13th for graduate theater programs in 2012 by U.S. News & World Report.

Accreditation: The Theater Department is accredited by the National Association of Schools of Theatre (NAST).

Areas of Specialization: Areas of specialization can be developed through graduate study in any of the research areas. Particularly relevant are courses in film or television writing.

Job Prospects: The program is primarily focused on training our students for careers in the theater industry.

Non-Matriculated Student Policy: Along with all university approvals, non-matriculated students are required to get written approval by the instructor for each class they wish to take.

Financing Opportunities: Assistantships, including tuition remission and a stipend, may be available for exceptional candidates.

Admission Requirements and Deadlines
Application Deadline:
Fall: January 15

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 3

From whom: Letters of recommendation should be obtained from college/university professors and/or professionals in the field who are familiar with their work.

Coursework Required for Admission Consideration: Particular coursework is not required, but evidence of playwriting experience and commitment to theater writing are required.

Bachelor's Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Statement of Goals: Introduce yourself in approximately 500 words by relaying your relevant experience, values, and areas of interest. Proper essay form should be used, but it may be in a personal style.

Standardized Test Scores:
Applicants who earned their baccalaureate degree from an institution where the language of instruction was other than English, with the exception of those who subsequently earned a master's degree at a U.S. institution, must report scores for a standardized test of English that meet these minimums:

- TOEFL iBT: 79
- IELTS Academic: 6.5
- PTE Academic: 53
**Interview:** The applicant meets with the Head of Playwriting.

**Resume:** Current resume required.

**Writing Sample:** One full-length script or two one-acts are required for admission consideration.

**Program Requirements**

**General Program Requirements:**

Number of Credits Required Beyond the Baccalaureate: 60

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>THTR 5871</td>
<td>Playwriting I</td>
<td></td>
</tr>
<tr>
<td>THTR 5872</td>
<td>Playwriting II</td>
<td></td>
</tr>
<tr>
<td>THTR 5873</td>
<td>Adaptation</td>
<td></td>
</tr>
<tr>
<td>THTR 5874</td>
<td>Docudrama</td>
<td></td>
</tr>
<tr>
<td>THTR 8001</td>
<td>Seminar in Dramatic Literature</td>
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<tr>
<td>THTR 8002</td>
<td>Seminar in Dramatic Literature</td>
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<tr>
<td>THTR 8881</td>
<td>Playwriting III</td>
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<tr>
<td>THTR 8882</td>
<td>Playwriting IV</td>
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<tr>
<td>THTR 8883</td>
<td>Teaching Playwriting</td>
<td></td>
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<tr>
<td>THTR 9882</td>
<td>Projects in Playwriting</td>
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<tr>
<td>THTR 9982</td>
<td>Projects in Playwriting</td>
<td></td>
</tr>
<tr>
<td>THTR 9991</td>
<td>Research</td>
<td></td>
</tr>
<tr>
<td>THTR 9995</td>
<td>Thesis</td>
<td></td>
</tr>
</tbody>
</table>

Other theater and area studies

**Additional Requirements:**

Reviews are held after each term. Each review considers all work done, progress made, and future plans.

**Culminating Events:**

**Thesis:**

A full-length play is required.

**Contacts**

**Program Web Address:**

https://www.temple.edu/academics/degree-programs/theater-playwriting-mfa-ca-tpw-mfa

**Department Information:**

Theater Graduate Admissions
Center for the Performing and Cinematic Arts/School of Theater, Film and Media Arts
2001 N. 13th Street, 127 Presser Hall
Philadelphia, PA 19122-6016
tfma@temple.edu
215-204-8598
Fax: 215-204-4957

**Mailing Address for Application Materials:**

Graduate Admissions
Center for the Performing and Cinematic Arts/School of Theater, Film and Media Arts
2001 N. 13th Street, 127 Presser Hall (012-00)

Philadelphia, PA 19122-6016

**Department Contacts:**

**Admissions:**

Paury Flowers
Recruitment Coordinator
tfma@temple.edu

**Chair:**

Fred Duer
fmduer@temple.edu

**Graduate Certificate: Documentary Arts and Ethnographic Research**

Center for the Performing and Cinematic Arts / SCHOOL OF THEATER, FILM AND MEDIA ARTS (https://tfma.temple.edu)

Learn more about the graduate certificate in Documentary Arts and Ethnographic Research (https://www.temple.edu/academics/degree-programs/documentary-arts-and-ethnographic-research-certificate-graduate-ca-daer-grad).

**About the Certificate**

The graduate certificate in Documentary Arts and Ethnographic Research is a 12-credit interdisciplinary program that involves faculty and courses in the Center of the Arts, the College of Liberal Arts, and the School of Media and Communication. The certificate builds on Temple’s strong international reputation in documentary film and visual anthropology. It is ideally suited for students who plan to incorporate visual studies, ethnographic methods, and documentary practices into their artistic and scholarly projects. The certificate program offers students the opportunity to develop marketable applied expertise in practices that bridge the arts, humanities, and social sciences.

The philosophy behind the certificate program is to promote a broad and critical use of diverse media tools in the study and representation of culture(s). Program topics include the theories, methods, aesthetics, and ethics of documentary research and visual representation; the relationships between artistic, humanistic, and scientific visual research methods; the collaborative use of visual media in indigenous, diaspora, and non-Western communities; the critical understanding of the use of new media in documentary contexts, such as mobile media; and the political economy that shapes how images are made, distributed, and used worldwide. Students in the program develop skills to:

- create cultural, cross-cultural, and interdisciplinary documentary projects through film, digital technologies, and representational media;
- integrate visual and cross-cultural materials through innovative uses of technologies;
- incorporate cultural aesthetics, research ethics, cross-cultural research, and the use of documentary arts and media tools in their teaching careers; and
- work on collaborative projects involving multiple countries and contexts that can include scholarly research, international government and nongovernmental research, participation in cross-disciplinary projects on contemporary issues, and media activism.
**Time Limit for Certificate Completion:** 3 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The graduate certificate can be completed on a part-time basis.

**Non-Matriculated Student Policy:** The certificate program is open only to students enrolled in M.F.A. and Ph.D. programs at Temple University.

### Admission Requirements and Deadlines

**Application Deadline:**
- Fall: February 21
- Spring: October 21


**Letters of Reference:**
- Number Required: 1
- From Whom: A letter of support must be written by the applicant student's advisor.

**Bachelor's Degree in Discipline/Related Discipline:** Applicants must hold a baccalaureate degree — and must be currently enrolled in an M.F.A. or Ph.D. program at Temple University.

**Statement of Goals:** Describe your reasons for pursuing the certificate in Documentary Arts and Ethnographic Research in 250 words.

**Interview:** Qualifying applicant students are invited for an interview with a member of the Certificate Steering Committee.

**Other:** Applicant students must provide certification that they are currently enrolled in good standing, maintaining a minimum GPA of 3.5 in their M.F.A. or Ph.D. program at Temple University.

### Certificate Requirements

**Number of Credits Required to Complete the Certificate:** 12

**Required Courses:**

<table>
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<tr>
<th>Code</th>
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<tr>
<td></td>
<td><strong>Core Courses</strong></td>
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<tr>
<td></td>
<td>Select at least one course from each represented discipline to complete a minimum of two of the following:</td>
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<tr>
<td>ANTH 5438</td>
<td>Anthropology of Mass Media</td>
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<tr>
<td>ANTH 8408</td>
<td>Approaches in the Anthropology of Visual Communication I</td>
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<tr>
<td>FMA 8462</td>
<td>Documentary Arts and Visual Research</td>
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<tr>
<td></td>
<td><strong>Electives</strong></td>
<td></td>
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<tr>
<td></td>
<td>Select at least three courses from the following:</td>
<td></td>
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<tr>
<td>ANTH 5389</td>
<td>Fieldwork in Ethnography</td>
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<tr>
<td>ANTH 5439</td>
<td>Anthropology and Photography</td>
<td></td>
</tr>
<tr>
<td>ANTH 5444</td>
<td>Anthropological Problems in Visual Production</td>
<td></td>
</tr>
<tr>
<td>ARTH 5405</td>
<td>History of Photography</td>
<td></td>
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<tr>
<td>FMA 4674</td>
<td>Anthropological Film/Media</td>
<td></td>
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<tr>
<td>FMA 5672</td>
<td>History of Documentary Film</td>
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</tbody>
</table>

### Contacts

**Certificate Program Web Address:**

https://www.temple.edu/academics/degree-programs/documentary-arts-and-ethnographic-research-certificate-graduate-ca-daer-grad

**Department Information:**

Film and Media Arts Graduate Admissions
Center for the Performing and Cinematic Arts/School of Theater, Film and Media Arts
2001 N. 13th Street, 127 Presser Hall
Philadelphia, PA 19122-6016
FilmMFA@temple.edu
215-204-8598
Fax: 215-204-4957

**Department Contacts:**

**Program Director:**
Roderick Coover
Associate Professor
rcoover@temple.edu
215-204-3859
Temple University Graduate Bulletin 2018-2019

Fox School of Business and Management

Since its establishment in 1918, the Fox School of Business and Management at Temple University has built a distinguished tradition of preparing business leaders, professionals, and entrepreneurs for successful careers. Today, it is the largest, most comprehensive business school in the greater Philadelphia region — and among the largest in the world.

Accredited by the Association to Advance Collegiate Schools of Business (AACSB International), the Fox School offers graduate degree programs on campuses throughout the region and around the world. The Fox School is thoroughly committed to providing student-centered education and professional development relevant to today's digital, global economy. That commitment is reflected in:

• Integration of technology into the curriculum and classroom.
• Encouragement of entrepreneurship and innovation in business and education.
• The school’s global presence and perspective.
• Strategic alliances with regional and international business communities, particularly within the region’s dominant and growth industries in financial services, healthcare, information technology, pharmaceuticals/biotechnology, and tourism and hospitality.

Supporting and enriching the academic programs are research and outreach institutes and centers, including the Advanta Center for Research in Financial Institutions, Center for Healthcare Research and Management, Center for International Business Education and Research, Innovation and Entrepreneurship Institute, Institute for Business and Information Technology, Institute of Global Management Studies, and Small Business Development Center.

With the construction of Alter Hall, an $80 million, state-of-the-art facility, the Fox School embarked on a new era of learning. More than a space with just classrooms and offices, Alter Hall is where students, faculty, and alumni connect and collaborate. Every design element, every piece of technology, and every decision regarding the building was made with the themes of connection and collaboration in mind.

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• Actuarial Science, M.S. (p. 309)
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• Business Administration/Entrepreneurship, Ph.D. (p. 319)
• Business Administration/Finance, Ph.D. (p. 319)
• Business Administration/HR Management and Organizational Behavior, Ph.D. (p. 320)
• Business Administration/Interdisciplinary Study, Ph.D. (p. 322)
• Business Administration/International Business Administration, Ph.D. (p. 323)
• Business Administration/Management Information Systems, Ph.D. (p. 325)
• Business Administration/Marketing, Ph.D. (p. 326)
• Business Administration/Operations and Supply Chain Management, Ph.D. (p. 328)
• Business Administration/Risk Management and Insurance, Ph.D. (p. 331)
• Business Administration/Strategic Management, Ph.D. (p. 332)
• Business Administration/Tourism and Sport, Ph.D. (p. 334)
• Business Administration Executive Program, M.B.A. (p. 337)
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Certificates

• Business Administration
• Human Resource Management
• Information Technology Auditing and Cyber Security
• Management Consulting

Certificates Not Currently Open for Enrollment

• Corporate Instructional Design
• Entrepreneurship
• Healthcare Business Analytics

Post-M.B.A. Certificates Not Currently Open for Enrollment

• Accounting and Financial Management
• Actuarial Science
• Business Management
• Finance
• General and Strategic Management
• Healthcare Management
• Human Resource Management
• International Business Management
• Management Information Systems
• Marketing
• Risk Management

Graduate Faculty

Aleksi Aaltonen, Assistant Professor, Department of Management Information Systems, Fox School of Business and Management; Ph.D., London School of Economics.

Edoardo Airoldi, Professor, Department of Statistical Science, Fox School of Business and Management; Ph.D., Carnegie Mellon University.

Ronald C. Anderson, Professor and Interim Dean, Department of Finance, Fox School of Business and Management; Ph.D., Texas A and M University.

Lynne M. Andersson, Associate Professor, Department of Human Resource Management, Fox School of Business and Management; Ph.D., University of North Carolina at Chapel Hill.

Hilal Atasoy, Assistant Professor (Research), Department of Accounting, Fox School of Business and Management; Ph.D., University of Illinois at Urbana-Champaign.

Sezgin Ayabakan, Assistant Professor, Department of Management Information Systems, Fox School of Business and Management; Ph.D., University of Texas at Dallas.

Xue Bai, Associate Professor, Department of Marketing and Supply Chain Management, Fox School of Business and Management; Ph.D., Carnegie Mellon University.

Gurdip Bakshi, Professor, Department of Finance, Fox School of Business and Management; Ph.D., University of Wisconsin-Madison.

Steven Balsam, Professor, Department of Accounting, Fox School of Business and Management; Ph.D., City University of New York.

Rajiv Banker, Professor, Department of Accounting, Fox School of Business and Management; D.B.A., Harvard University.

Sudipta Basu, Professor, Department of Accounting, Fox School of Business and Management; Ph.D., University of Rochester.

Konstantin Bauman, Assistant Professor, Department of Management Information Systems, Fox School of Business and Management; Ph.D., Moscow State University.

Gary J. Blau, Professor, Department of Human Resource Management, Fox School of Business and Management; Ph.D., University of Cincinnati.

Jeffrey R. Boles, Associate Professor, Department of Legal Studies in Business, Fox School of Business and Management; Ph.D., University of California Berkeley.

Dmitri Byzalov, Associate Professor, Department of Accounting, Fox School of Business and Management; Ph.D., Harvard University.

Rajeswararao S. Chaganti, Professor, Department of Strategic Management, Fox School of Business and Management; Ph.D., State University of New York at Buffalo.

Hua Chen, Associate Professor, Department of Risk, Insurance and Healthcare Management, Fox School of Business and Management; Ph.D., Georgia State University.

J. Jay Choi, Professor, Department of Finance, Fox School of Business and Management; Ph.D., New York University.

J. David Cummins, Professor, Department of Risk, Insurance and Healthcare Management, Fox School of Business and Management; Ph.D., University of Pennsylvania.

John R. Deckop, Professor, Department of Human Resource Management, Fox School of Business and Management; Ph.D., University of Minnesota.

C. Anthony Di Benedetto, Professor, Department of Marketing and Supply Chain Management, Fox School of Business and Management; Ph.D., McGill University.

Angelika Dimoka, Associate Professor, Department of Marketing and Supply Chain Management, Fox School of Business and Management; Ph.D., University of Southern California.

Yuexiao Dong, Associate Professor, Department of Statistical Science, Fox School of Business and Management; Ph.D., The Pennsylvania State University.

Leora F. Eisenstadt, Assistant Professor, Department of Legal Studies in Business, Fox School of Business and Management; J.D., New York University School of Law.

Elyas E. Elyasiani, Professor, Department of Finance, Fox School of Business and Management; Ph.D., Michigan State University.

Kevin J. Fandl, Assistant Professor, Department of Legal Studies in Business, Fox School of Business and Management; Ph.D., George Mason University.

Susan Feinberg, Associate Professor, Department of Strategic Management, Fox School of Business and Management; Ph.D., University of Minnesota.

Mary Anne Gaffney, Associate Professor, Department of Accounting, Fox School of Business and Management; Ph.D., University of Maryland.

Deanna Geddes, Associate Professor, Department of Human Resource Management, Fox School of Business and Management; Ph.D., Purdue University.

Mark E. Gershon, Professor, Department of Marketing and Supply Chain Management, Fox School of Business and Management; Ph.D., University of Arizona.

Jing Gong, Assistant Professor, Department of Management Information Systems, Fox School of Business and Management; Ph.D., Carnegie Mellon University.

Elizabeth A. Gordon, Associate Professor, Department of Accounting, Fox School of Business and Management; Ph.D., Columbia University.
Martin Grace, Professor, Department of Risk, Insurance and Healthcare Management, Fox School of Business and Management; Ph.D., University of Florida.

Terry Ann Halbert, Professor, Department of Legal Studies in Business, Fox School of Business and Management; J.D., Rutgers University.

Xu Han, Assistant Professor, Department of Statistical Science, Fox School of Business and Management; Ph.D., University of Pennsylvania.

Crystal M. Harold, Associate Professor, Department of Human Resource Management, Fox School of Business and Management; Ph.D., George Mason University.

Richard M. Heiberger, Professor Emeritus, Department of Statistical Science, Fox School of Business and Management; Ph.D., Harvard University.

Arthur Hochner, Associate Professor Emeritus, Department of Human Resource Management, Fox School of Business and Management; Ph.D., Harvard University.

Samuel D. Hodge Jr., Professor, Department of Legal Studies in Business, Fox School of Business and Management; J.D., Temple University.

Brian C. Holtz, Associate Professor, Department of Human Resource Management, Fox School of Business and Management; Ph.D., George Mason University.

Alan J. Izenman, Professor, Department of Statistical Science, Fox School of Business and Management; Ph.D., University of California Berkeley.

Jaehwuen Jung, Assistant Professor, Department of Management Information Systems, Fox School of Business and Management; Ph.D., Duke University.

Vishesh Karwa, Assistant Professor, Department of Statistical Science, Fox School of Business and Management; Ph.D., The Pennsylvania State University.

You Jin Kim, Assistant Professor, Department of Human Resource Management, Fox School of Business and Management; Ph.D., Michigan State University.

Masaaki (Mike) Kotabe, Professor, Department of Strategic Management, Fox School of Business and Management; Ph.D., Michigan State University.

Jagannathan Krishnan, Professor, Department of Accounting, Fox School of Business and Management; Ph.D., The Ohio State University.

Jayanthi Krishnan, Associate Professor, Department of Accounting, Fox School of Business and Management; Ph.D., The Ohio State University.

Subodha Kumar, Professor, Department of Marketing and Supply Chain Management, Fox School of Business and Management; Ph.D., University of Texas at Dallas.

James M. Lammendola, Assistant Professor (Practice), Department of Legal Studies in Business, Fox School of Business and Management; J.D., University of Tulsa College of Law.

Kuang-Yao Lee, Assistant Professor, Department of Statistical Science, Fox School of Business and Management; Ph.D., The Pennsylvania State University.

Yan Li, Associate Professor, Department of Finance, Fox School of Business and Management; Ph.D., Cornell University.

Xueming Luo, Professor, Department of Marketing and Supply Chain Management, Fox School of Business and Management; Ph.D., Louisiana Tech University.

Munir Y. Mandviwalla, Associate Professor, Department of Management Information Systems, Fox School of Business and Management; Ph.D., Claremont Graduate University.

Connie Xiangdong Mao, Associate Professor, Department of Finance, Fox School of Business and Management; Ph.D., Cornell University.

John A. McClendon, Associate Professor, Department of Human Resource Management, Fox School of Business and Management; Ph.D., University of South Carolina.

Thorsten P. Moenig, Assistant Professor, Department of Risk, Insurance and Healthcare Management, Fox School of Business and Management; Ph.D., Georgia State University.

Naureen (Mimi) Morrin, Professor, Department of Marketing and Supply Chain Management, Fox School of Business and Management; Ph.D., New York University.

Shreeam R. Mudambi, Professor, Department of Strategic Management, Fox School of Business and Management; Ph.D., Cornell University.

Subhadeep Mukhopadhyay, Assistant Professor, Department of Statistical Science, Fox School of Business and Management; Ph.D., Texas A and M University.

Lalitha Naveen, Associate Professor, Department of Finance, Fox School of Business and Management; Ph.D., Arizona State University.

In-Sue Oh, Professor, Department of Human Resource Management, Fox School of Business and Management; Ph.D., University of Iowa.

Min-Seok Pang, Assistant Professor, Department of Management Information Systems, Fox School of Business and Management; Ph.D., University of Michigan.

Arvind Parkhe, Professor, Department of Strategic Management, Fox School of Business and Management; Ph.D., Temple University.

Paul Pavlou, Professor, Department of Management Information Systems, Fox School of Business and Management; Ph.D., University of Southern California.

Eric G. Press, Professor, Department of Accounting, Fox School of Business and Management; Ph.D., University of Oregon.

Shaojun Qin, Assistant Professor, Department of Marketing and Supply Chain Management, Fox School of Business and Management; Ph.D., University of Minnesota.

Crystal Reeck, Assistant Professor, Department of Marketing and Supply Chain Management, Fox School of Business and Management; Ph.D., Duke University.
Accountancy, M.Acc.

FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program

The Master of Accountancy program is designed for students who seek the CPA designation and a career in either public or private accounting. The M.Acc. curriculum builds on accounting undergraduate work and is focused on advanced-level accounting and related topics. Time to study and sit for the CPA exam is incorporated into the program’s schedule, providing a practical timeline to pass all four parts of the CPA exam during the program. M.Acc. faculty and coaches work with students one-on-one to help identify the career opportunity that is right for each
individual from among our close-knit recruiting partnerships with Big Four, national, and regional public accounting firms.

**Time Limit for Degree Completion**: 5 years

**Campus Location**: Main

**Full-Time/Part-Time Status**: Full-time study is required.

**Affiliation(s)**: Research interests of the Fox School of Business and Management faculty are supported by numerous centers and institutes throughout Temple University.

**Accreditation**: All Fox School of Business and Management graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB International).

**Job Prospects**: Graduates are typically hired by public or private accounting firms. The program has a 96% job placement rate overall, with 50% of graduates placed in Big Four accounting firms.

**Non-Matriculated Student Policy**: Students who would like to pursue a Master of Accountancy degree who were not accounting majors while undergraduates may take six required prerequisite courses as a non-matriculated student, if approved by the Director of the M.Acc. program. The six courses are as follows:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tr>
<td>ACCT 2101</td>
<td>Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 2521</td>
<td>Cost Accounting</td>
<td>3</td>
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<tr>
<td>ACCT 3511</td>
<td>Intermediate Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 3512</td>
<td>Intermediate Accounting II</td>
<td>3</td>
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<tr>
<td>ACCT 3531</td>
<td>Federal Taxes on Income</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 3596</td>
<td>Auditing</td>
<td>3</td>
</tr>
</tbody>
</table>

**Financing Opportunities**: Citizens and permanent residents of the United States are considered domestic students and are typically eligible for federal student loans as well as alternative loans through private lenders. The Fox School grants 5% tuition scholarships to alumni who are admitted to the program. The program also offers merit- and need-based scholarships to eligible admitted students. Students are further encouraged to pursue scholarship funds from organizations to which they belong, such as athletic organizations, clubs, employers, ethnic groups, fraternal organizations, religious organizations, rotary clubs, unions, veteran groups, and the like.

**Admission Requirements and Deadlines**

**Application Deadline**:

- **Fall**:
  - December 15 – Early Decision Deadline
  - March 1 – Scholarship Deadline and International Deadline
  - June 30 – Final Deadline

Applications are reviewed as they are received and can sometimes be considered after the deadline.

APPLY ONLINE (http://fox.force.com/SiteLogin) to this Fox graduate program at http://fox.force.com/SiteLogin.

**Letters of Reference**:

**Number Required**: 2

**From Whom**: Professional references from an immediate supervisor, current or past, are preferred. Academic references are acceptable.

**Coursework Required for Admission Consideration**: Applicants must have completed the following prerequisite undergraduate accounting courses (or equivalent) with a grade of “B-” or better prior to starting the M.Acc. program: ACCT 2101 Financial Accounting, ACCT 2521 Cost Accounting, ACCT 3511 Intermediate Accounting I, ACCT 3512 Intermediate Accounting II, ACCT 3531 Federal Taxes on Income, and ACCT 3596 Auditing. Applicants may apply to the program while working on satisfying the prerequisite courses. Final acceptance is contingent upon completion of the prerequisites with a “B-” or better in each course.

**Bachelor’s Degree in Discipline/Related Discipline**: A baccalaureate degree is required.

**Statement of Goals**: This essay discusses your professional plans and goals. It should address the following questions:

- What past experiences prepared or motivated you to pursue the M.Acc. degree?
- How would you expect to change over the course of the program?
- What personal and professional values and skills do you hope to acquire beyond the academic content?
- How will obtaining the M.Acc. help you achieve your career goals?

**Standardized Test Scores**:

GMAT/GRE: Required. GMAT or GRE scores are expected to be at or above the 70th percentile.

For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:

- TOEFL: 100 iBT or 600 PBT minimum
- IELTS: 7.5
- PTE Academic: 72 minimum

**Resume**: Current resume required.

**Transfer Credit**: Transfer credit is not accepted.

**Program Requirements**

**General Program Requirements**:

**Number of Credits Required Beyond the Baccalaureate**: 30

**Required Courses**:

### Year 1

<table>
<thead>
<tr>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 5201 Advanced Studies in Financial Reporting</td>
</tr>
<tr>
<td>ACCT 5202 Enterprise Systems and Internal Controls</td>
</tr>
<tr>
<td>ACCT 5203 Professional Skills Development</td>
</tr>
<tr>
<td>ACCT 5287 Colloquium on Current Issues in Accounting Practice</td>
</tr>
</tbody>
</table>
During the last four weeks of Term 1, students take a CPA review course for the Financial Accounting and Reporting (FAR) part of the CPA exam.

<table>
<thead>
<tr>
<th>Term Credit Hours</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Spring</strong></td>
<td></td>
</tr>
<tr>
<td>ACCT 5204</td>
<td>3</td>
</tr>
<tr>
<td>Advanced Auditing and Assurance Services</td>
<td></td>
</tr>
<tr>
<td>ACCT 5205</td>
<td>3</td>
</tr>
<tr>
<td>Advanced Federal Taxation</td>
<td></td>
</tr>
<tr>
<td>ACCT 5206</td>
<td>3</td>
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<tr>
<td>Law Ethics Regulations</td>
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<tr>
<td>ACCT 5287</td>
<td>1</td>
</tr>
<tr>
<td>Colloquium on Current Issues in Accounting Practice</td>
<td></td>
</tr>
</tbody>
</table>

During the last four weeks of Term 2, students take a CPA review course for the Auditing and Attestation (AUD) part of the CPA exam.

<table>
<thead>
<tr>
<th>Term Credit Hours</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Summer</strong></td>
<td></td>
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<tr>
<td>ACCT 5207</td>
<td>3</td>
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<tr>
<td>Concepts and Analysis of Financial Statements</td>
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</tr>
<tr>
<td>ACCT 5208</td>
<td>3</td>
</tr>
<tr>
<td>Strategic Technology and Performance Management</td>
<td></td>
</tr>
<tr>
<td>ACCT 5209</td>
<td>2</td>
</tr>
<tr>
<td>Taxes Business Strategy</td>
<td></td>
</tr>
<tr>
<td>ACCT 5287</td>
<td>1</td>
</tr>
<tr>
<td>Colloquium on Current Issues in Accounting Practice</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Term Credit Hours</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Credit Hours:</td>
<td>30</td>
</tr>
</tbody>
</table>

Culminating Events: Successful completion of coursework is required to earn the M.Acc. degree.

Contacts

Program Web Address:
http://www.fox.temple.edu/specialized-masters/master-of-accountancy/

Department Information:

Fox School of Business and Management
1801 Liacouras Walk
701 Alter Hall (006-22)
Philadelphia, PA 19122
foxinfo@temple.edu
215-204-5890
215-204-7678
Fax: 215-204-1632

Submission Address for Application Materials:
http://fox.force.com/SiteLogin

Department Contacts:

Academic Director:
Sheri Risler, CPA
Assistant Professor of Practice
srislter@temple.edu
215-204-6482

Specialized Master's Programs Coordinator:
Rachel Carr
Associate Director for Specialized Master's Programs
foxms@temple.edu

215-204-7678

Accounting, M.S.

FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program

Currently offered as an international partner program and open only to students affiliated with the international partner institution.

Actuarial Science, M.S.

FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program

The Fox School of Business and Management has a longstanding tradition of preparing our students with the power to lead within the world of business. Actuaries specialize in the evaluation of insurance and financial risks and distinguish themselves through a combination of analytical skills, business acumen, and professionalism. Temple's Actuarial Science M.S. program prepares students for a successful career in the field through its rigorous coursework and outstanding opportunities for professional development. Our curriculum covers multiple professional actuarial exams and can be tailored to students' interests and background. We are recognized as a Center of Actuarial Excellence (CAE) by the Society of Actuaries.

Time Limit for Degree Completion: 5 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Affiliation(s): Research is supported by Fox School of Business and Management's Advanta Center for Research in Financial Institutions, Center for Healthcare Research and Management, Innovation and Entrepreneurship Institute, and Institute of Global Management Studies. Research interests of the Fox School faculty are also supported by numerous centers and institutes throughout Temple University.

Accreditation: All Fox School of Business and Management graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB International).

Job Prospects: Actuaries hold positions of responsibility with consulting firms, government insurance programs, government regulatory organizations, insurance companies, and investment banks.

Non-Matriculated Student Policy: Students with an undergraduate GPA of 3.0 or higher may be allowed to take classes under non-matriculated status. Non-matriculated students may take a maximum of 9 credits. Any additional courses require the student to be matriculated in a program.

Financing Opportunities: Citizens and permanent residents of the United States are considered domestic students and are typically eligible for federal student loans as well as alternative loans through private lenders. The Fox School grants 5% tuition scholarships to alumni who are admitted to the program. The program also offers merit- and need-based scholarships to eligible admitted students. Students are further encouraged to pursue scholarship funds from organizations to which they
belong, such as athletic organizations, clubs, employers, ethnic groups, fraternal organizations, religious organizations, rotary clubs, unions, veteran groups, and the like.

**Admission Requirements and Deadlines**

**Application Deadline:**

**Fall:**
- December 15 – Early Decision Deadline
- March 1 – Scholarship Deadline and International Deadline
- June 30 – Final Deadline

**Spring:**
- June 30 – Scholarship Deadline and International Deadline
- November 1 – Final Deadline

Applications are reviewed as they are received and can sometimes be considered after the deadline.

APPLY ONLINE (http://fox.force.com/SiteLogin) to this Fox graduate program at http://fox.force.com/SiteLogin.

**Letters of Reference:**

**Number Required:** 2

**From Whom:** Professional references from an immediate supervisor, current or past, are preferred. Academic references are acceptable.

**Bachelor’s Degree in Discipline/Related Discipline:** A baccalaureate degree is required.

**Statement of Goals:** Describe your future goals in specific terms and how the M.S. will assist you in achieving those goals.

**Standardized Test Scores:**

GRE/GMAT: Required. Scores for the GRE typically fall within the following percentile ranges: 50 to 99 Verbal; 80 to 99 Quantitative.

For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:

- TOEFL: 100 iBT or 600 PBT minimum
- IELTS: 7.5
- PTE Academic: 72 minimum

**Resume:** Current resume required.

**Transfer Credit:** Upper-level graduate credits from an AACSB-accredited graduate business program, but not previously applied to a conferred degree, may be transferred into the M.S. program. The credits must be part of the required degree program at Temple University. To be transferred, the grade must be a "B" or better. The Admissions Committee makes recommendations for transferring credits to the department chair. The maximum number of credits a student may transfer is 6.

**Program Requirements**

**General Program Requirements:**

*Number of Credits Required Beyond the Baccalaureate:* 30

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS 5101</td>
<td>Theory of Interest</td>
<td>3</td>
</tr>
<tr>
<td>AS 5102</td>
<td>Actuarial Modeling I</td>
<td>3</td>
</tr>
<tr>
<td>AS 5104</td>
<td>Actuarial Modeling III</td>
<td>3</td>
</tr>
<tr>
<td>AS 5107</td>
<td>Advanced Theory of Interest</td>
<td>3</td>
</tr>
<tr>
<td>AS 5108</td>
<td>Actuarial Analytics</td>
<td>3</td>
</tr>
<tr>
<td>RMI 5101</td>
<td>Managing Human Capital</td>
<td>3</td>
</tr>
<tr>
<td>RMI 5104</td>
<td>The Role of Property and Casualty Insurance Sector in Enterprise Risk Management</td>
<td>3</td>
</tr>
</tbody>
</table>

**Electives** 9

Select three from the following:

- ACCT 5001 Accounting for Managerial and Investment Analysis and Planning
- AS 5103 Actuarial Modeling II
- AS 5105 Actuarial Economics
- AS 5106 Actuarial Corporate Finance
- ECON 8001 Microeconomic Analysis
- ECON 8002 Macroeconomic Analysis
- ECON 8009 Econometrics I
- ECON 8129 Time Series Econometrics
- ECON 8139 Panel Data Econometrics
- MKTG 5001 Marketing Management/Strategy
- RMI 5051 Managing Risk
- STAT 5602 Visualization: The Art of Numbers and the Psychology of Persuasion
- STAT 5603 Statistical Learning and Data Mining
- STAT 5607 Advanced Business Analytics
- STAT 8101 Stochastic Processes
- STAT 8108 Applied Multivariate Analysis I
- STAT 8114 Survival Analysis I
- STAT 8115 Nonparametric Methods

**Total Credit Hours:** 30

**Culminating Events:** Successful completion of coursework is required to earn the M.S. degree in Actuarial Science.

**Contacts**

**Program Web Address:**

http://www.fox.temple.edu/specialized-masters/actuarial-science/

**Department Information:**

Fox School of Business and Management
1801 Liacouras Walk
701 Alter Hall (006-22)
Philadelphia, PA 19122
foxinfo@temple.edu
215-204-5890
215-204-7678
Fax: 215-204-1632
Submission Address for Application Materials:
http://fox.force.com/SiteLogin

Department Contacts:
Academic Co-Directors:
Thorsten Moenig
moenig@temple.edu
215-204-2805

Tianxiang Shi
tianxiang.shi@temple.edu
215-204-6192

Specialized Master’s Programs Coordinator:
Rachel Carr
Associate Director for Specialized Master’s Programs
foxms@temple.edu
215-204-7678

Business Administration, M.B.A.

FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program

The Fox School of Business and Management at Temple University has redefined graduate business education through the development of the Fox M.B.A. The program prepares individuals to assume leadership roles in corporations, government, and non-governmental organizations that require business management skills. The hallmarks of the Fox School’s commitment to graduating dynamic qualified and skilled students are its focus on four fundamental principles: integrated curriculum, real-world learning, personalized service, and value.

The Fox M.B.A. is available in three options:

- The Global M.B.A. is a full-time, two-year cohort program. It is designed for professionals with at least two years of work experience who seek career mobility and enhancement.
- The Part-Time M.B.A. provides management education to working professionals on a part-time basis. It can be completed on an accelerated basis in two years or as a more flexible option in three to four years. It is designed for working professionals who want to advance within their organization or to change careers.
- The Online M.B.A. is delivered online, with only one week-long opening residency required. Professionals seeking the rigor and respect of a traditional M.B.A. with the flexibility of online learning can complete the program in 20 months.

Time Limit for Degree Completion: 6 years

Campus Location: Center City, Conshohocken, Main, Online

Full-Time/Part-Time Status: The Global M.B.A. is completed on a full-time basis with a cohort. Part-Time M.B.A. students typically take 8 credits or less per academic term, but may accelerate their degree completion by taking 9 credits per term. For the Online M.B.A., classes are delivered one class at a time over a four- to six-week period.

Interdisciplinary Study: Students seeking an M.B.A. in a particular discipline may choose to complete electives from another business academic area.

Affiliation(s): Research is supported by Fox School of Business and Management’s Advanta Center for Research in Financial Institutions, Center for Healthcare Research and Management, Innovation and Entrepreneurship Institute, and Institute of Global Management Studies. Research interests of the Fox School faculty are also supported by numerous centers and institutes throughout Temple University.

Accreditation: All Fox School of Business and Management graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB International).

In addition, the Fox School's Health Sector Management concentration within the M.B.A. has been continuously accredited by the Commission on Accreditation of Healthcare Management Education (CAHME) (http://www.cahme.org) since 1970. Fox School is a member of the Association of University Programs in Health Administration (AUPHA) (http://www.aupha.org).

Areas of Specialization: Students work with an academic advisor regarding concentration requirements. Twelve credits of upper-level elective coursework within the discipline are required to complete a concentration. These electives may be combined to complete any one of the concentrations below:

- Business Analytics
- Business Management
- Corporate Compliance, Governance and Regulatory Policy
- Enterprise Risk Management
- Entrepreneurship
- Financial Management
- Health Sector Management
- Human Resource Management
- Information Technology Management (not currently accepting applications)
- Innovation Management
- International Management
- Management Consulting
- Marketing Management
- Sport Business
- Strategic Management
- Supply Chain Management
- Travel and Tourism

Job Prospects: Graduates of the Fox School of Business and Management obtain jobs in a variety of industries, such as computer/information technology, consulting, consumer products and services, energy/utilities, financial services/banking, government, healthcare, industrial products and services, manufacturing, pharmaceuticals, telecommunications, and tourism/transportation.

Non-Matriculated Student Policy: Students with an undergraduate GPA of 3.0 or higher may be allowed to take classes on a non-matriculated basis. Non-matriculated students can take a maximum of 9 credits. Any additional courses require the student to be matriculated in a program. For more information and an application, visit https://www.fox.temple.edu/graduate-certificates/pre-mba-courses/.
Financing Opportunities: The Fox School of Business and Management has a limited number of scholarships for students with high academic grades and test scores. Scholarships are offered at the time of acceptance into the Fox School.

The Fox School has a limited number of graduate externships for assignments in academic and administrative departments. Work assignments are generally administrative in nature and may include word and data processing. An extern provides up to 20 hours of service per week. Students are required to submit applications directly to the department in which they wish to be appointed.

Admission Requirements and Deadlines

Application Deadline:

Full-time Global M.B.A. applicants are admitted Fall term only. Applicants for the Part-Time M.B.A. are admitted in the Fall and Spring terms. Applications for the Online M.B.A. are accepted for the Fall, Spring, and Summer terms.

Global M.B.A. Fall Admission Only:

• December 15 – Early Decision Deadline
• March 1 – Scholarship Deadline and International Deadline
• June 30 – Final Deadline

Part-Time M.B.A. Fall Admission:

• December 15 – Early Decision Deadline
• March 1 – Scholarship Deadline and International Deadline
• June 30 – Final Deadline

Part-Time M.B.A. Spring Admission:

• June 30 – Scholarship Deadline and International Deadline
• November 1 – Final Deadline

Online M.B.A. Fall Admission:

• December 15 – Early Decision Deadline
• March 1 – Scholarship Deadline and International Deadline
• June 30 – Final Deadline

Online M.B.A. Spring Admission:

• June 30 – Scholarship Deadline and International Deadline
• November 1 – Final Deadline

Online M.B.A. Summer Admission:

• February 15 – Scholarship Deadline
• March 31 – Final Deadline

Applications are reviewed as they are received and can sometimes be considered after the deadline. International students who miss the March 1 deadline for the Global M.B.A. are required to submit to Temple University an evaluation of their transcript(s) by an approved educational evaluation firm.

APPLY ONLINE (http://fox.force.com/SiteLogin) to this Fox graduate program at http://fox.force.com/SiteLogin.

Letters of Reference:

Number Required: 2

From Whom: Professional references from an immediate supervisor, current or past, are preferred. Academic references are acceptable.

Coursework Required for Admission Consideration: No specific courses are required for admission, but two years of work experience are highly recommended.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree, not necessarily in a business discipline, is required.

Statement of Goals: Two essays are required, one each on:

• Leadership: Please describe an incident from your personal experiences that typifies your definition of leadership. Specifically address ethics, diversity, collaboration, and motivation.
• Goals: Describe how you would expect to change over the course of the program. What personal and professional values and skills do you hope to acquire beyond academic content? How will obtaining the degree help you achieve your career goals?

Standardized Test Scores:

GMAT: Required. Applicants to the M.B.A. program should ideally have attained a total GMAT score of 600 or higher. Applicants with GMAT scores below 550 are encouraged to retake the examination. Note that GRE scores are also accepted. Candidates interested in a standardized test score waiver should work directly with the Fox School's admissions team.

TOEFL: 100 iBT, with a score of at least 25 in the Speak section, or 600 PBT minimum

Resume: Current resume required.

Transfer Credit: Upper-level graduate credits from an AACSB-accredited graduate business program, but not previously applied to a conferred degree, may be transferred into the M.B.A. program. The credits must be part of the required degree program at Temple University. To be transferred, the grade must be a "B" or better. Admitted students may request a waiver application at the time of admission. Waiver requests are reviewed as they are received by the Waiver Committee. The maximum number of credits a student may transfer is 9.

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 54 for the Global M.B.A. and 48 for the Part-Time and Online M.B.A.s

Required Courses:
The core course requirements for each of the three delivery options for the M.B.A. are delineated in the course grids below:

Global M.B.A.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 5001</td>
<td>Accounting for Managerial and Investment Analysis and Planning</td>
<td>3</td>
</tr>
<tr>
<td>BA 5002</td>
<td>Socioeconomic Context of Business</td>
<td>3</td>
</tr>
<tr>
<td>BA 5387</td>
<td>Advanced Professional Development Strategies (two terms @ 0.5 credit each; one term for 0 credits)</td>
<td>1</td>
</tr>
</tbody>
</table>
BA 5388  Enterprise Management Consulting Practicum  4.5
BA 5389  Global Immersion Experience (two terms @ 1 credit each) 2
FIN 5001  Financial Analysis and Strategy 3
FIN 5387  Practicum in Financial Analysis and Strategy 1.5
HRM 5001  Leadership in Organizations 3
HRM 5302  Ethical Management 1.5
HRM 5303  Influential Communication in Complex Organizations 1.5
LGLS 5301  Business Law 1.5
MIS 5001  Information Technology Management 3
MKTG 5001  Marketing Management/Strategy 3
MSOM 5001  Operations Management 3
RMI 5051  Business Strategy in a Global Environment 3
STAT 5001  Quantitative Methods for Business 3

Total Credit Hours  42

1 5000-level business courses that are not required core M.B.A. coursework may be selected as business electives. Students may choose elective courses from the following disciplines: Accounting (ACCT), Business Administration (BA), Finance (FIN), Healthcare Management (HCM), Human Resource Management (HRM), International Business Administration (IB), Legal Studies (LGLS), Management Information Systems (MIS), Management Science/Operations Management (MSOM), Marketing (MKTG), Risk Management and Insurance (RMI), Strategic Management (SGM), and Supply Chain Management (SCM). Business electives from outside the Fox School must be preapproved by the student's program director.

Part-Time and Online M.B.A.s

Code  Title  Credit Hours

ACCT 5001  Accounting for Managerial and Investment Analysis and Planning 3
BA 5002  Socioeconomic Context of Business 3
BA 5287  Enterprise Management Consulting Practicum 1 3
FIN 5001  Financial Analysis and Strategy 2 3
HRM 5001  Leadership in Organizations 3
LGLS 5701  Legal and Ethical Foundations of Business 3
MIS 5001  Information Technology Management 3
MKTG 5001  Marketing Management/Strategy 3
MSOM 5001  Operations Management 3
RMI 5051  Managing Risk 3
SGM 5051  Business Strategy in a Global Environment 3
STAT 5001  Quantitative Methods for Business 3

Total Credit Hours  36

1 All core courses must be completed before the student enrolls in BA 5287, the capstone course.
2 ACCT 5001 Accounting for Managerial and Investment Analysis and Planning and STAT 5001 Quantitative Methods for Business are prerequisites that must be satisfactorily completed before FIN 5001 can be taken.
3 STAT 5001 Quantitative Methods for Business is a prerequisite that must be satisfactorily completed before MSOM 5001 can be taken.

The additional course requirements for each of the 16 M.B.A. concentrations are identified in the following course grids:

Business Analytics

Code  Title  Credit Hours

STAT 5602  Visualization: The Art of Numbers and the Psychology of Persuasion 3
Select two STAT courses from the following: 6

STAT 5603  Statistical Learning and Data Mining

STAT 5604  Experiments: Knowledge by Design
STAT 5605  Decision Models: From Data to Decisions
STAT 5606  Data: Care, Feeding, and Cleaning
STAT 5607  Advanced Business Analytics

Business Elective(s) 3

Total Credit Hours  12

Corporate Compliance, Governance and Regulatory Policy

Code  Title  Credit Hours

Select three LGLS courses from the following: 1
LGLS 5604  Corporate Compliance 9
LGLS 5605  Corporate Governance and Responsibility
LGLS 5611  Compliance in the Financial Services Industry
LGLS 5612  Ethics in the Financial Services Industry
LGLS 5615  Risk Management and Compliance
LGLS 5617  Sustainability in Business
LGLS 5618  Compliance in the Government Services Industry
LGLS 5619  Ethics in Government Services Industry
LGLS 5622  Law and Policy of the Workplace
LGLS 5623  Cyber-Security and Privacy

Business Elective(s) 2 3

Total Credit Hours  12
1. Four courses must be taken if LGLS 5618 Compliance in the Government Services Industry (1.5 s.h.) and/or LGLS 5619 Ethics in Government Services Industry (1.5 s.h.) are selected.

2. 5000-level business courses that are not required core M.B.A. coursework may be selected as business electives. Students may choose elective courses from the following disciplines: Accounting (ACCT), Business Administration (BA), Finance (FIN), Healthcare Management (HCM), Human Resource Management (HRM), International Business Administration (IB), Legal Studies (LGLS), Management Information Systems (MIS), Management Science/Operations Management (MSOM), Marketing (MKTG), Risk Management and Insurance (RMI), Strategic Management (SGM), and Supply Chain Management (SCM). Business electives from outside the Fox School must be preapproved by the student’s program director.

### Enterprise Risk Management

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMI</td>
<td>RMI Courses at the 5000 level or higher</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Business Elective(s)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Total Credit Hours</td>
<td>12</td>
</tr>
</tbody>
</table>

To complete the Enterprise Risk Management requirement, at least 9 credit hours must be earned from RMI courses at the 5000 level or higher, and 3 credit hours must be earned from business electives. The total credit hours should be 12.

### Financial Management

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIN</td>
<td>FIN Courses at the 5000 level or higher</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Business Elective(s)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Total Credit Hours</td>
<td>12</td>
</tr>
</tbody>
</table>

To complete the Financial Management requirement, at least 9 credit hours must be earned from FIN courses at the 5000 level or higher, and 3 credit hours must be earned from business electives. The total credit hours should be 12.

### Entrepreneurship

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SGM</td>
<td>Entrepreneurial Thinking and New Venture</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Creation</td>
<td></td>
</tr>
<tr>
<td>SGM</td>
<td>Lean Entrepreneurship / Innovation: Fast &amp;</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Frugal Methods to Launch Startups &amp; Test</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Innovative Ideas</td>
<td></td>
</tr>
<tr>
<td>Select coursework from the following:</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SGM</td>
<td>Social Entrepreneurship</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SGM</td>
<td>Management Consulting: Principles and</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Practices</td>
<td></td>
</tr>
<tr>
<td>SGM</td>
<td>Business Model Innovation</td>
<td>3</td>
</tr>
<tr>
<td>SGM</td>
<td>Creativity Unleashed: Harnessing Creativity</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>to Solve Real-World Innovation Challenges</td>
<td></td>
</tr>
<tr>
<td>SGM</td>
<td>Plan, Pitch, and Fund an Entrepreneurial</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Start-Up</td>
<td></td>
</tr>
<tr>
<td>SGM</td>
<td>Independent Study</td>
<td>3</td>
</tr>
<tr>
<td>SGM</td>
<td>Special Topics: General &amp; Strategic</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Management</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Business Elective(s)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Total Credit Hours</td>
<td>12</td>
</tr>
</tbody>
</table>

To complete the Entrepreneurship requirement, at least 3 credit hours must be earned from each of the following: Entrepreneurial Thinking and New Venture Creation, Lean Entrepreneurship / Innovation: Fast & Frugal Methods to Launch Startups & Test Innovative Ideas, Social Entrepreneurship, Management Consulting: Principles and Practices, Business Model Innovation, Creativity Unleashed: Harnessing Creativity to Solve Real-World Innovation Challenges, Plan, Pitch, and Fund an Entrepreneurial Start-Up, Independent Study, and Special Topics: General & Strategic Management. The total credit hours should be 12.

### Health Sector Management

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM</td>
<td>Health Systems Organization and Development</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCM</td>
<td>Healthcare Organizational Leadership and</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Strategy</td>
<td></td>
</tr>
<tr>
<td>HCM</td>
<td>Financial Management of Healthcare</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Organizations</td>
<td></td>
</tr>
<tr>
<td>HCM</td>
<td>Advanced Hlth Econ &amp; Fin</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total Credit Hours</td>
<td>12</td>
</tr>
</tbody>
</table>

To complete the Health Sector Management requirement, at least 3 credit hours must be earned for each of Health Systems Organization and Development, Healthcare Organizational Leadership and Strategy, Financial Management of Healthcare Organizations, and Advanced Hlth Econ & Fin. The total credit hours should be 12.

1. New courses focused on entrepreneurship may alternately be selected to fulfill this elective requirement. Approval is required.
2. Approval is required to take SGM 5182 or SGM 5190.
3. 5000-level business courses that are not required core M.B.A. coursework may be selected as business electives. Students may choose elective courses from the following disciplines: Accounting (ACCT), Business Administration (BA), Finance (FIN), Healthcare Management (HCM), Human Resource Management (HRM), International Business Administration (IB), Legal Studies (LGLS), Management Information Systems (MIS), Management Science/Operations Management (MSOM), Marketing (MKTG), Risk Management and Insurance (RMI), Strategic Management (SGM), and Supply Chain Management (SCM). Business electives from outside the Fox School must be preapproved by the student’s program director.

4. Alternate course equivalents at 1.5 credits are HCM 5601 The Organizational Structure of the US Health System AND HCM 5602 Market Forces, Regulation and Policy in the US Health System.

5. Alternate course equivalents at 1.5 credits are HCM 5603 Population Health Management AND HCM 5651 Healthcare Leadership and Strategy.

6. Alternate course equivalents at 1.5 credits are HCM 5606 Financial Analysis and Managerial Accounting for Healthcare Organizations AND HCM 5607 Corporate Finance and Strategy in Healthcare.
Alternate course equivalents at 1.5 credits are HCM 5604 Analytic Foundations of Health and Healthcare AND HCM 5605 Healthcare Market Structure and Strategy.

**Human Resource Management**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRM Courses at the 5000 level or higher</td>
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<td>9</td>
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</tr>
<tr>
<td>Business Elective(s)</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td></td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

5000-level business courses that are not required core M.B.A. coursework may be selected as business electives. Students may choose elective courses from the following disciplines: Accounting (ACCT), Business Administration (BA), Finance (FIN), Healthcare Management (HCM), Human Resource Management (HRM), International Business Administration (IB), Legal Studies (LGLS), Management Information Systems (MIS), Management Science/Operations Management (MSOM), Marketing (MKTG), Risk Management and Insurance (RMI), Strategic Management (SGM), and Supply Chain Management (SCM). Business electives from outside the Fox School must be preapproved by the student’s program director.

**Information Technology Management**

This concentration is not accepting applications for the 2018-2019 academic year.

**Innovation Management**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SGM 5103</td>
<td>Management of Technology and Innovation</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SGM 5138</td>
<td>Global Innovation Strategy: Creating Agile, Innovative, Globally-Competitive Organizations</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Select coursework from the following:</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SGM 5104</td>
<td>Management of Growth, Decline and Turnaround</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SGM 5105</td>
<td>Industry Competitive Analysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SGM 5107</td>
<td>Management of Mergers and Acquisitions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SGM 5133</td>
<td>Management Consulting: Principles and Practices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SGM 5134</td>
<td>Engagement Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SGM 5135</td>
<td>Innovation Intelligence: Plan, Build, Protect, and Monetize a Technology / Innovation Portfolio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SGM 5139</td>
<td>Lean Entrepreneurship / Innovation: Fast &amp; Frugal Methods to Launch Startups &amp; Test Innovative Ideas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SGM 5142</td>
<td>Business Model Innovation</td>
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<td></td>
</tr>
<tr>
<td>SGM 5144</td>
<td>Creativity Unleashed: Harnessing Creativity to Solve Real-World Innovation Challenges</td>
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<td></td>
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<tr>
<td>SGM 5148</td>
<td>Open Innovation and Managing Strategic Alliances</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SGM 5182</td>
<td>Independent Study</td>
<td></td>
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<tr>
<td>SGM 5190</td>
<td>Special Topics: General &amp; Strategic Management</td>
<td></td>
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<tr>
<td>SGM 5501</td>
<td>International Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Elective(s)</td>
<td></td>
<td>3</td>
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</tr>
<tr>
<td>Total Credit Hours</td>
<td></td>
<td>12</td>
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</tr>
</tbody>
</table>

New courses focused on innovation may alternately be selected to fulfill this elective requirement. Approval is required.

Approval is required to take SGM 5182 or SGM 5190.

5000-level business courses that are not required core M.B.A. coursework may be selected as business electives. Students may choose elective courses from the following disciplines: Accounting (ACCT), Business Administration (BA), Finance (FIN), Healthcare Management (HCM), Human Resource Management (HRM), International Business Administration (IB), Legal Studies (LGLS), Management Information Systems (MIS), Management Science/Operations Management (MSOM), Marketing (MKTG), Risk Management and Insurance (RMI), Strategic Management (SGM), and Supply Chain Management (SCM). Business electives from outside the Fox School must be preapproved by the student’s program director.

**International Management**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>International Exposure Component (IEC)</td>
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<td>3</td>
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</tr>
<tr>
<td>Select three courses from the following:</td>
<td></td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>BA 5187</td>
<td>IMBA Practicum: Corporate Visits and Mentoring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IB 5501</td>
<td>IB Theory &amp; Practice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IB 5511</td>
<td>International Management</td>
<td></td>
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<tr>
<td>IB 5536</td>
<td>Intl Corporate Finance</td>
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<tr>
<td>IB 5582</td>
<td>Independent Study</td>
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<tr>
<td>IB 5590</td>
<td>Special Topics: Intl Bus</td>
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</tr>
<tr>
<td>MKTG 5502</td>
<td>International Marketing Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SGM 5138</td>
<td>Global Innovation Strategy: Creating Agile, Innovative, Globally-Competitive Organizations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td></td>
<td>12</td>
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</tr>
</tbody>
</table>

All students in the International Management concentration are required to satisfy an International Exposure Component (IEC) through coursework, practicum, immersion, or other transformational academic experience approved by the M.B.A. Programs Office.

**Management Consulting**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>SGM 5133</td>
<td>Management Consulting: Principles and Practices</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SGM 5134</td>
<td>Engagement Management</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Select coursework that totals 3 credits from the following:</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SGM 5111</td>
<td>Growing Through Mergers &amp; Acquisitions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SGM 5113</td>
<td>Strategy Implementation: Designing Organizations for Success</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SGM 5190</td>
<td>Special Topics: General &amp; Strategic Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAT 5602</td>
<td>Visualization: The Art of Numbers and the Psychology of Persuasion</td>
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<td></td>
</tr>
<tr>
<td>Business Elective(s)</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td></td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>
5000-level business courses that are not required core M.B.A. coursework may be selected as business electives. Students may choose elective courses from the following disciplines: Accounting (ACCT), Business Administration (BA), Finance (FIN), Healthcare Management (HCM), Human Resource Management (HRM), International Business Administration (IB), Legal Studies (LGLS), Management Information Systems (MIS), Management Science/Operations Management (MSOM), Marketing (MKTG), Risk Management and Insurance (RMI), Strategic Management (SGM), and Supply Chain Management (SCM). Business electives from outside the Fox School must be preapproved by the student’s program director.

### Marketing Management

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>MKTG Courses at the 5000 level or higher</td>
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<tr>
<td>Business Elective(s)¹</td>
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<tr>
<td><strong>Total Credit Hours</strong></td>
<td><strong>12</strong></td>
<td></td>
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</tbody>
</table>

### Strategic Management

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>SGM Courses at the 5100 level or higher</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Business Elective(s)¹</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td><strong>Total Credit Hours</strong></td>
<td><strong>12</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Sport Business

Select three courses from the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRM 5211</td>
<td>Sport Finance and Economics</td>
<td>9</td>
</tr>
<tr>
<td>SRM 5212</td>
<td>Legal Issues in Sport and Recreation</td>
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<tr>
<td>SRM 5226</td>
<td>Consumer Behavior in Sport and Recreation</td>
<td></td>
</tr>
<tr>
<td>SRM 5227</td>
<td>Sport Media and Communication</td>
<td></td>
</tr>
<tr>
<td>SRM 5251</td>
<td>Sport Analytics</td>
<td></td>
</tr>
<tr>
<td>SRM 5252</td>
<td>Sport for Development</td>
<td></td>
</tr>
<tr>
<td>SRM 5255</td>
<td>The Sport Workplace</td>
<td></td>
</tr>
<tr>
<td>Business Elective(s)¹</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td><strong>Total Credit Hours</strong></td>
<td><strong>12</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Supply Chain Management

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCM 5602</td>
<td>Global Supply Chain Management¹</td>
<td>3</td>
</tr>
<tr>
<td>SCM 5603</td>
<td>Supply Chain Management Analytics¹</td>
<td>3</td>
</tr>
<tr>
<td>SCM 5604</td>
<td>Practical Applications in Supply Chain Management¹</td>
<td>3</td>
</tr>
<tr>
<td>Business Elective(s)²</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td><strong>Total Credit Hours</strong></td>
<td><strong>12</strong></td>
<td></td>
</tr>
</tbody>
</table>

¹ MSOM 5001 Operations Management, a core course for the Part-Time and Online M.B.A. programs, is a prerequisite that can be taken concurrently with the SCM concentration courses.

² 5000-level business courses that are not required core M.B.A. coursework may be selected as business electives. Students may choose elective courses from the following disciplines: Accounting (ACCT), Business Administration (BA), Finance (FIN), Healthcare Management (HCM), Human Resource Management (HRM), International Business Administration (IB), Legal Studies (LGLS), Management Information Systems (MIS), Management Science/Operations Management (MSOM), Marketing (MKTG), Risk Management and Insurance (RMI), Strategic Management (SGM), and Supply Chain Management (SCM). Business electives from outside the Fox School must be preapproved by the student’s program director.
Travel and Tourism

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>THM 5323</td>
<td>Sustainable Tourism Development</td>
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</tr>
<tr>
<td>THM 5342</td>
<td>Destination Management and Marketing</td>
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<tr>
<td>THM 5343</td>
<td>Cultural Intelligence</td>
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</tr>
<tr>
<td>THM 5344</td>
<td>Crisis, Risk and Disaster Management</td>
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<tr>
<td>THM 5345</td>
<td>Understanding Tourism in the 21st Century</td>
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<tr>
<td>Business Elective(s)</td>
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<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours 12

1 5000-level business courses that are not required core M.B.A. coursework may be selected as business electives. Students may choose elective courses from the following disciplines: Accounting (ACCT), Business Administration (BA), Finance (FIN), Healthcare Management (HCM), Human Resource Management (HRM), International Business Administration (IB), Legal Studies (LGLS), Management Information Systems (MIS), Management Science/Operations Management (MSOM), Marketing (MKTG), Risk Management and Insurance (RMI), Strategic Management (SGM), and Supply Chain Management (SCM). Business electives from outside the Fox School must be preapproved by the student's program director.

Internship: A summer internship or equivalent summer experience is required for full-time Global M.B.A. students. No internship is required for Part-Time or Online M.B.A. students.

Additional Requirements:
For Global, Part-Time, and Online M.B.A. Students:
Candidates in the Global, Part-Time, and Online M.B.A. programs are required to complete two quantitative exams as part of the program.

Before being registered for first-semester courses, students must complete a baseline quantitative exam. The baseline exam is an assessment to evaluate a student's knowledge of core business concepts in Accounting, Finance, and Statistics prior to taking any M.B.A. coursework. The score is not counted toward a grade in any class and, therefore, is not factored into a student's GPA.

Upon completion of all core coursework but prior to being registered for the capstone course, students are required to take a comprehensive M.B.A. quantitative exam again, similar to the baseline exam. This pre-capstone (end of program) exam is used to ensure that a student’s quantitative skills are ready for the Enterprise Management Consulting capstone. Students must pass the exam with a score of 70% for capstone registration. Multiple attempts to pass the comprehensive end-of-program quantitative exam are permitted, and remedial problems will be available for practice. The exam is an open-book, open-note exam that is timed and proctored. It is not counted toward a grade in any class and, therefore, is not factored into a student’s GPA.

For Full-time Global M.B.A. Students:
MBA Essentials is a required month-long program for all full-time Global M.B.A. students and is completed before their first Fall term. Beginning in early August, the program includes the coursework, leadership and teambuilding activities, fundamental business-topic refresher workshops, and other special events. Participation is mandatory for all matriculating full-time students.

Full-time Global M.B.A. candidates are required to fully participate in all co-curricular requirements, speaker series, and special events.

For Part-Time and Online M.B.A. Students:
Part-Time M.B.A. candidates and Online M.B.A. candidates are required to complete three academic professional development and three influential communication workshops. Workshops are delivered through a variety of modalities to meet the demands of the busy working professional. Workshops change each academic term based on market and employer demands. Examples of academic workshops include, but are not limited to, “Big Data,” “Data Visualization,” “Design Inquiry,” and “Making the Most of Infographics.” Examples of professional development workshops include, but are not limited to, “Communicating to the Point,” “Creating and Delivering High-Impact Presentations,” “Great on the Job,” “Lunch/Coffee with Leaders,” and “Personal Branding.” Program administration tracks student completion as students are not permitted to register for their capstone course unless all professional development requirements have been met.

For Online M.B.A. Students:
Online M.B.A. candidates are required to participate in a one-week on-campus residency. Residency includes networking, professional development, and the first course of the program.

For Students in the Health Sector Management concentration:
For the Health Sector Management concentration only, Management Grand Rounds (MGRs) are required. MGRs allow graduate students in healthcare management to observe both healthcare administrators and clinicians in the healthcare environment. The hosting institution, in collaboration with the faculty, usually sets an agenda for the visit. MGR sites are selected to represent the breadth and depth of healthcare providers, payers, suppliers, and consultants. The MGR constitutes an excellent opportunity to develop leadership skills related to relationship building/network development communication, information seeking/management, and personal self-development.

Contacts

Program Web Address:
http://www.fox.temple.edu/mba/

Department Information:
Fox School of Business and Management
1801 Liacouras Walk
701 Alter Hall (006-22)
Philadelphia, PA 19122
foxinfo@temple.edu
215-204-5890
215-204-7678
Fax: 215-204-1632

Submission Address for Application Materials:
http://fox.force.com/SiteLogin

Department Contacts:
Admissions:
Fox Graduate Admissions Office
foxinfo@temple.edu
215-204-5890
Executive Director, M.B.A. and Specialized Master's Programs:
Valerie Henry
valerie.henry@temple.edu
215-204-7678

Associate Vice Dean, M.B.A. and Specialized Master's Programs:
Christine Kiely
ckiely@temple.edu
215-204-7678

Business Administration/Accounting, Ph.D.

FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program

The Ph.D. in Business Administration program, with a concentration in Accounting, prepares individuals for advanced research and scholarship. The primary emphasis of the program is to prepare future faculty members for successful academic careers, although many of our alumni are employed in government, industry, and consulting.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered before 4:30 p.m.

Accreditation: All Fox School of Business and Management graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB International).

Job Prospects: The program is primarily dedicated to producing well-trained researchers who will work in academic positions.

Non-Matriculated Student Policy: Non-matriculated students are not permitted to take doctoral courses.

Financing Opportunities: Typically, all Ph.D. students receive financial assistantship in the form of full tuition remission and a stipend in return for offering services as a Research Assistant (RA) or Teaching Assistant (TA). Level of support is based on the concentration, the applicant’s qualifications, and competitive considerations. Students can also receive remuneration for conference travel, publications, and academic achievement.

Admission Requirements and Deadlines

Application Deadline:

Fall: December 15 for Fellowship consideration, rolling thereafter

APPLY ONLINE (http://fox.force.com/SiteLogin) to this Fox graduate program at http://fox.force.com/SiteLogin.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators, typically college/university faculty or an immediate work supervisor, who can provide insight into your abilities and talents, as well as comment on your aptitude for graduate study.

Bachelor's Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Statement of Goals: Approximately 500 to 1,000 words include your specific interest in Temple's program; your research goals; your future career goals; and your academic and research achievements.

Standardized Test Scores:
GMAT/GRE: Required. GMAT scores are preferred; in some cases, GRE scores may be substituted. In general, scores above the 90th percentile are expected on each portion of the exam.

TOEFL: 100 iBT or 600 PBT minimum

Resume: Current resume required.

Program Requirements

General Program Requirements:
Number of Credits Required to Earn the Degree: 54

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Concentration Pro-Seminar</td>
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<tr>
<td></td>
<td>Concentration Courses</td>
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</tr>
<tr>
<td></td>
<td>Theory and Research Methods Courses</td>
<td>30</td>
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<tr>
<td></td>
<td>Electives</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Non-Didactic Courses</td>
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<tr>
<td>BA 9994</td>
<td>Preliminary Examination Preparation</td>
<td>1</td>
</tr>
<tr>
<td>BA 9998</td>
<td>Pre-Dissertation Research</td>
<td>1</td>
</tr>
<tr>
<td>BA 9999</td>
<td>Dissertation Research</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Select additional credits of BA 9994, BA 9998, and/or BA 9999</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Total Credit Hours</td>
<td>54</td>
</tr>
</tbody>
</table>

Culminating Events: A committed student can complete a Ph.D. in Accounting in five years:

• Complete coursework in Accounting, Economics, Finance, and Statistics in the first two and a half years.
• Take the competency exam in Economics and Statistics at the end of the first year.
• Present two research papers, typically in collaboration with one or more faculty, in the second and third years, later extending research presentations to national and international conferences.
• Take the Accounting Ph.D. comprehensive exam at the end of the third year.
• Work on dissertation; revise and submit research papers to journals; and develop teaching skills during the fourth and fifth years.

Contacts

Program Web Address:
http://www.fox.temple.edu/departments/accounting/phd/
Department Information:
Fox School of Business and Management
1801 Liacouras Walk
334-337 Alter Hall (006-22)
Philadelphia, PA 19122
foxphdoffice@temple.edu
215-204-7677
Fax: 215-204-5698

Submission Address for Application Materials:
http://fox.force.com/SiteLogin

Department Contacts:
Associate Director, Doctoral Programs:
Lisa Fitch
A336 Alter Hall
foxphdoffice@temple.edu
215-204-7677

Concentration Advisor:
Jagannathan Krishnan
456 Alter Hall
krish@temple.edu
215-204-8126

Business Administration/Entrepreneurship, Ph.D.
FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program
This program is not accepting applications for the 2018-2019 academic year.

Business Administration/Finance, Ph.D.
FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program
The Finance Ph.D. program is a specialization within the Ph.D. program in Business Administration. The Finance program prepares students for careers in teaching and research.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered before 4:30 p.m.

Affiliation(s): Research is supported by Fox School of Business and Management's Advanta Center for Research in Financial Institutions, Center for Healthcare Research and Management, Innovation and Entrepreneurship Institute, and Institute of Global Management Studies.

Research interests of the Fox School faculty are also supported by numerous centers and institutes throughout Temple University.

Accreditation: All Fox School of Business and Management graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB International).

Job Prospects: The program is primarily dedicated to producing well-trained researchers who will work in academic positions.

Licensure: The program prepares graduates for licensure in the field of finance.

Non-Matriculated Student Policy: Non-matriculated students are not permitted to take doctoral courses.

Financing Opportunities: Typically, all Ph.D. students receive financial assistantship in the form of full tuition remission and a stipend in return for offering services as a Research Assistant (RA) or Teaching Assistant (TA). Level of support is based on the concentration, the applicant's qualifications, and competitive considerations. Students can also receive remuneration for conference travel, publications, and academic achievement.

Admission Requirements and Deadlines
Application Deadline:
Fall: December 15 for Fellowship consideration, rolling thereafter

APPLY ONLINE (http://fox.force.com/SiteLogin) to this Fox graduate program at http://fox.force.com/SiteLogin.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators, typically college/university faculty or an immediate work supervisor, who can provide insight into your abilities and talents, as well as comment on your aptitude for graduate study.

Coursework Required for Admission Consideration: A year of college-level calculus is a prerequisite for the Ph.D. program in Finance.

Master's Degree in Discipline/Related Discipline: A degree in business, economics, or a related area is expected. An alternative is an equivalent research and teaching background.

Bachelor's Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Statement of Goals: Approximately 500 to 1,000 words include your specific interest in Temple's program; your research goals; your future career goals; and your academic and research achievements.

Standardized Test Scores:
GMAT/GRE: Required. GMAT scores are preferred; in some cases, GRE scores may be substituted. In general, scores above the 90th percentile are expected on each portion of the exam.

TOEFL: 100 iBT or 600 PBT minimum

Resume: Current resume required.
Program Requirements

General Program Requirements:
Number of Credits Required to Earn the Degree: 54

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
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<td>FIN 9001</td>
<td>Corp Finance Theory</td>
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<td>FIN 9002</td>
<td>Empirical Research in Corporate Finance</td>
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<td>FIN 9005</td>
<td>Empirical Asset Pricing</td>
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Theory and Research Methods Courses

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<td>BA 9104</td>
<td>Game Theory</td>
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<td>BA 9105</td>
<td>Bus Rsrch Econometrics I</td>
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<td>BA 9106</td>
<td>Bus Rsrch Econometrics II</td>
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<tr>
<td>BA 9108</td>
<td>Capital Markets Research</td>
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<td>BA 9203</td>
<td>Financial Economics</td>
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<td>BA 9205</td>
<td>Information Economics</td>
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<td>BA 9209</td>
<td>Business Econometrics III</td>
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<td>STAT 8112</td>
<td>Statistical Methods for Business Research I</td>
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Select 3 additional courses with the approval of the Finance Ph.D. advisor: 9

Non-Didactic Courses

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<td>BA 9998</td>
<td>Pre-Dissertation Research</td>
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</tr>
<tr>
<td>BA 9999</td>
<td>Dissertation Research</td>
<td>2</td>
</tr>
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</table>

Select additional credits of BA 9994, BA 9998, and/or BA 9999: 2

Total Credit Hours: 54

Additional Requirements:

Statistics Competency Examination:
An assessment of proficiency in statistical theory and methodology is made at the end of the first year in the program. Students who fail the Statistics competency exam on the first attempt must sit for reexamination prior to the Fall term of their second year. A second failure results in dismissal from the program. No third attempt is permitted.

Culminating Events:

Research Paper and Presentation Requirements:
Ph.D. students in Finance are required to complete a first-year research proposal by the end of September in the second year. They must also complete a research paper in their second year. The deadline for presentation of papers at the Finance Department’s internal seminar is Fall of the third year. After each presentation, a committee of Finance faculty evaluate whether the student has completed the paper and presentation requirement with satisfaction.

Comprehensive Examination:
Ph.D. students in Finance are required to pass a comprehensive exam in February of the third year. The exam is designed to test whether the student has a comprehensive and integrative understanding of the theories, methodologies, and empirical findings in the field of finance. It primarily focuses on the knowledge gained in the concentration seminars and theory courses, although other pertinent materials may also be included in the comprehensive exam.

Contacts

Program Web Address:
http://www.fox.temple.edu/departments/finance/

Department Information:

Fox School of Business and Management
1801 Liacouras Walk
334-337 Alter Hall (006-22)
Philadelphia, PA 19122
foxphdoffice@temple.edu
215-204-7677
Fax: 215-204-5698

Submission Address for Application Materials:
http://fox.force.com/SiteLogin

Department Contacts:

Associate Director, Doctoral Programs:
Lisa Fitch
A336 Alter Hall
foxphdoffice@temple.edu
215-204-7677

Concentration Advisor:
Connie X. Mao
416 Alter Hall
cmao@temple.edu
215-204-4895

Business Administration/Human Resource Management and Organizational Behavior, Ph.D.

FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program

The Ph.D. in Business Administration program, with a concentration in Human Resource Management and Organizational Behavior, engages the student in advanced research and scholarship. The primary emphasis of the program is to prepare future faculty members for successful academic careers, although many of our alumni are employed in government, industry, and consulting.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered before 4:30 p.m.

Accreditation: All Fox School of Business and Management graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB International).
Job Prospects: The program is primarily dedicated to producing well-trained researchers who will work in academic positions.

Non-Matriculated Student Policy: Non-matriculated students are not permitted to take doctoral courses.

Financing Opportunities: Typically, all Ph.D. students receive financial assistance in the form of full tuition remission and a stipend in return for offering services as a Research Assistant (RA) or Teaching Assistant (TA). Level of support is based on the concentration, the applicant's qualifications, and competitive considerations. Students can also receive remuneration for conference travel, publications, and academic achievement.

Admission Requirements and Deadlines

Application Deadline:

Fall: December 15 for Fellowship consideration, rolling thereafter

APPLY ONLINE (http://fox.force.com/SiteLogin) to this Fox graduate program at http://fox.force.com/SiteLogin.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators, typically college/university faculty or an immediate work supervisor, who can provide insight into your abilities and talents, as well as comment on your aptitude for graduate study.

Master's Degree in Discipline/Related Discipline: A master's degree in a business discipline is required.

Bachelor's Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Statement of Goals: Approximately 500 to 1,000 words include your specific interest in Temple's program; your research goals; your future career goals; and your academic and research achievements.

Standardized Test Scores:

GRE/GMAT: Required. In general, scores above the 90th percentile are expected on each portion of the exam.

TOEFL: 100 iBT or 600 PBT minimum

Resume: Current resume required.

Program Requirements

General Program Requirements:

Number of Credits Required to Earn the Degree: 54

Required Courses:

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<th>Credit Hours</th>
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<td>HRM 9011</td>
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<td>3</td>
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<tr>
<td>HRM 9001</td>
<td>Managing Human Resources</td>
<td>3</td>
</tr>
<tr>
<td>HRM 9002</td>
<td>Managing Work Behavior and Attitude</td>
<td>3</td>
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Concentration Pro-Seminar

Concentration Seminars

HRM 9003 Organization and Environment 3
HRM 9004 Dynamics of Organizational Interaction 3

Foundational Courses

BA 9001 Organizations and Management Theory 3
BA 9002 Scientific Inquiry-Management Research 3
BA 9003 Seminar in Organizational Behavior 3

Statistics and Research Methods Courses

STAT 8112 Statistical Methods for Business Research I 3
STAT 8113 Statistical Methods for Business Research II 3

Other Core Courses

BA 9103 Econ Theory of Choice 3
HRM 9090 Special Topics 3
IB 9001 Theory-Int Bus & Mltinat 3
Select 3 upper-level seminars in Economics, Statistics, other business disciplines, Psychology, or Sociology with approval of a faculty advisor 9

Non-Didactic Courses

BA 9994 Preliminary Examination Preparation 1
BA 9998 Pre-Dissertation Research 1
BA 9999 Dissertation Research 2
Select additional credits of BA 9994, BA 9998, and/or BA 9999 2

Total Credit Hours 54

Culminating Events: Students are expected to complete formal coursework within four academic terms. They then spend the remainder of the program working toward the successful completion of:

- A research paper that is presented at a national or regional conference by the end of the fifth term in the program
- A preliminary examination in Statistics
- A comprehensive paper requirement
- An oral dissertation proposal defense
- A final dissertation defense

Contacts

Program Web Address:

http://www.fox.temple.edu/phd/human-resource-management/

Department Information:

Fox School of Business and Management
1801 Liacouras Walk
334-337 Alter Hall (006-22)
Philadelphia, PA 19122
foxphdoffice@temple.edu
215-204-7677
Fax: 215-204-5698

Submission Address for Application Materials:

http://fox.force.com/SiteLogin

Associate Director, Doctoral Programs:

Lisa Fitch
A336 Alter Hall
FoxPhDOffice@temple.edu
215-204-7677

Concentration Advisor:
Derek Avery
350 Alter Hall
derek@temple.edu
215-204-4106

Business Administration/Interdisciplinary Study, Ph.D.
FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program
Businesses in today's globally competitive and rapidly changing technological environment are increasingly resorting to multidisciplinary approaches to problem solving. The Fox School of Business and Management is leading a growing trend in business schools toward interdisciplinary research with its Interdisciplinary Study (IDS) concentration within Business Administration. Outstanding students seeking in-depth preparation spanning multiple functional areas of business or who have expectations for breadth beyond the established programs of study may be interested in the IDS concentration. The faculty members within the IDS program are internationally recognized as stemming from multiple backgrounds in Accounting, Finance, International Business, Information Systems, Marketing, Neuroscience, Statistics, and Strategic Management.

Because students in the IDS concentration orient themselves between departments, student identification of a primary mentor is of paramount importance. The mentor's role is to ensure desirable student development as measured by paper presentations at top conferences, publication in relevant academic journals, and, ultimately, placement in research universities. Students from the IDS concentration typically seek mentorship from the most prestigious researchers in the Fox School, and, accordingly, are typically of the highest caliber among our accepted applicant pool.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered before 4:30 p.m.

Accreditation: All Fox School of Business and Management graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB International).

Areas of Specialization: Two specializations are offered: Behavioral and Quantitative.

Job Prospects: The program is primarily dedicated to producing well-trained researchers who will work in academic positions.

Non-Matriculated Student Policy: Non-matriculated students are not permitted to take doctoral courses.

Financing Opportunities: Assistantships are the centerpiece of the program's mentorship philosophy. An assistantship requires 20 hours of service per week, which can include teaching and supervised research. A stipend and tuition remission are provided.

Admission Requirements and Deadlines
Application Deadline:
Fall: January 15

Applications for the Ph.D. program are all processed together after the deadline.

APPLY ONLINE (http://fox.force.com/SiteLogin) to this Fox graduate program at http://fox.force.com/SiteLogin.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained from college/university faculty members familiar with the applicant's academic competence.

Bachelor's Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Statement of Goals: Approximately 500 to 1,000 words include your specific interest in Temple's program; your research goals; your future career goals; and your academic and research achievements.

Standardized Test Scores:
GRE: Required. A minimum score does not ensure admission to the program.

TOEFL: 100 iBT or 600 PBT minimum

Resume: Current resume required.

Program Requirements

General Program Requirements:
Number of Credits Required to Earn the Degree: 54

Required Courses:

<table>
<thead>
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<th>Title</th>
<th>Credit Hours</th>
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<td>Concentration Courses</td>
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<td></td>
<td>Theory and Research Methods Courses</td>
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<td>Electives</td>
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<td></td>
<td>Non-Didactic Courses</td>
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<td>BA 9994</td>
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</tr>
<tr>
<td>BA 9998</td>
<td>Pre-Dissertation Research</td>
<td>1</td>
</tr>
<tr>
<td>BA 9999</td>
<td>Dissertation Research</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Select additional credits of BA 9994, BA 9998, and/or BA 9999</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Total Credit Hours</td>
<td>54</td>
</tr>
</tbody>
</table>

Culminating Events:
Preliminary Examination:
The purpose of the preliminary examination is to demonstrate critical and interpretive knowledge of current research. The subject areas are determined, in advance, by the faculty of the department. The preliminary exam should be completed no more than one term after the student
...
completes the coursework component of the program. Students who are preparing to write their preliminary examinations should confirm a time and date with their departmental advisor.

The members of the student's department write the questions for the preliminary exam. The student must answer every question on the examination in order to be evaluated by the Department Committee. The evaluators look for a breadth and depth of understanding of specific research areas; a critical application of that knowledge to specific phenomena; and an ability to write technical prose. Each member votes to pass or fail the student. In order to pass, a majority of the committee members must agree that the exam has been satisfactorily completed.

Proposal:
The dissertation proposal demonstrates the student's knowledge of and ability to conduct the proposed research. The proposal should consist of the following:

1. the context and background surrounding a particular research problem;
2. an exhaustive survey and review of literature related to the problem; and
3. a detailed methodological plan for investigating the problem.

The proposal should be completed and approved no more than one year after completing coursework. Upon approval, a timeline for completing the investigation and writing process is established.

Dissertation:
The doctoral dissertation is an original empirical study that makes a significant contribution to the field. It should expand the existing knowledge and demonstrate the student's knowledge of both research methods and a mastery of her/his primary area of interest. Dissertations should be rigorously investigated; uphold the ethics and standard of the field; demonstrate an understanding of the relationship between the primary area of interest and the broader field of business; and be prepared for publication in an academic journal.

The Doctoral Advisory Committee is formed to oversee the student's doctoral research and is comprised of at least three Graduate Faculty members. Two members, including the Chair, must be from the student's department. The Chair is responsible for overseeing and guiding the student's progress, coordinating the responses of the committee members, and informing the student of her/his academic progress.

The Dissertation Examining Committee evaluates the student's dissertation and oral defense, including the student's ability to express verbally her/his research question, methodological approach, primary findings, and implications. The Dissertation Examining Committee votes to pass or fail the dissertation and the defense at the conclusion of the public presentation. This committee is comprised of the Doctoral Advisory Committee and at least one additional faculty member from outside the department.

If any member decides to withdraw from the committee, the student shall notify the Chair of the Dissertation Examining Committee and the Ph.D./BA Program Director. The student is responsible for finding a replacement, in consultation with the Chair. Inability to find a replacement shall constitute evidence that the student is unable to complete the dissertation. In such a case, the student may petition the Ph.D./BA Program Director for a review. Once review of the facts and circumstances is completed, the Director will rule on the student's progress. If the Director rules that the student is not capable of completing the dissertation, s/he will be dismissed from the program. This decision may be appealed to the Senior Associate Dean. If dismissed, the student may appeal to the Graduate School.

Students who are preparing to defend their dissertation should confirm a time and date with their Dissertation Examining Committee and register with the Graduate Secretary at least 15 days before the defense is to be scheduled. The Graduate Secretary arranges the time, date, and room within two working days, and forwards to the student the appropriate forms. After the Graduate Secretary has arranged the time, date, and room for the defense, the student must send to the Graduate School a completed "Announcement of Dissertation Defense" form, found in TUPortal under the Tools tab within "University Forms," at least 10 days before the defense. The department posts flyers announcing the defense, and the Graduate School announces the defense on its website.

Contacts

Program Web Address:
http://www.fox.temple.edu/phd/interdisciplinary-studies/

Department Information:
Fox School of Business and Management
1801 Liacouras Walk
334-337 Alter Hall (006-22)
Philadelphia, PA 19122
foxphdoffice@temple.edu
215-204-7677
Fax: 215-204-5698

Submission Address for Application Materials:
http://fox.force.com/SiteLogin

Department Contacts:
Associate Director, Doctoral Programs:
Lisa Fitch
A336 Alter Hall
foxphdoffice@temple.edu
215-204-7677

Concentration Advisor:
Angelika Dimoka
510 Alter Hall
dimoka@temple.edu
215-204-5672

Business Administration/International Business Administration, Ph.D.

FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program

The Ph.D. in Business Administration program, with a concentration in International Business Administration, prepares individuals for advanced research and scholarship. The primary emphasis of the program is to prepare future faculty members for successful academic careers,
although many of our alumni are employed in government, industry, and consulting.

**Time Limit for Degree Completion:** 7 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** Students complete the degree program through classes offered before 4:30 p.m.

**Accreditation:** All Fox School of Business and Management graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB International).

**Job Prospects:** The program is primarily dedicated to producing well-trained researchers who will work in academic positions.

**Non-Matriculated Student Policy:** Non-matriculated students are not permitted to take doctoral courses.

**Financing Opportunities:** Typically, all Ph.D. students receive financial assistantship in the form of full tuition remission and a stipend in return for offering services as a Research Assistant (RA) or Teaching Assistant (TA). Level of support is based on the concentration, the applicant’s qualifications, and competitive considerations. Students can also receive remuneration for conference travel, publications, and academic achievement.

### Admission Requirements and Deadlines

**Application Deadline:**

- **Fall:** January 15

Applications for the Ph.D. program are all processed together after the deadline.

APPLY ONLINE (http://fox.force.com/SiteLogin) to this Fox graduate program at http://fox.force.com/SiteLogin.

**Letters of Reference:**

- **Number Required:** 2
- **From Whom:** Letters of recommendation should be obtained from college/university faculty members familiar with the applicant’s academic competence.

**Master’s Degree in Discipline/Related Discipline:** A master’s degree in the field is required.

**Bachelor’s Degree in Discipline/Related Discipline:** All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

**Statement of Goals:** Approximately 500 to 1,000 words include your specific interest in Temple's program; your research goals; your future career goals; and your academic and research achievements.

**Standardized Test Scores:**

- **GMAT/GRE**: Required. In general, scores above the 90th percentile are expected on each portion of the exam. A minimum score does not ensure admission to the program.
- **TOEFL:** 100 iBT or 600 PBT minimum
- **Resume:** Current resume required.

### Program Requirements

**General Program Requirements:**

- **Number of Credits Required to Earn the Degree:** 54

**Required Courses:**

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<tr>
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<th>Title</th>
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<td>MKTG 9090</td>
<td>Sem-Sel Topics in Mktg</td>
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<td>SGM 9090</td>
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<td><strong>Concentration Seminars</strong></td>
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<td>BA 9103</td>
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<tr>
<td>SGM 9212</td>
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**Non-Didactic Courses**

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<th>Title</th>
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<tr>
<td>BA 9998</td>
<td>Pre-Dissertation Research</td>
</tr>
<tr>
<td>BA 9999</td>
<td>Dissertation Research</td>
</tr>
</tbody>
</table>

Select additional credits of BA 9994, BA 9998, and/or BA 9999 2

**Total Credit Hours** 54

**Additional Requirements:** Students in the International Business Administration concentration are also required to take:

- a minor in one business functional area (e.g., Finance, Marketing, Strategy), and
- 1 to 2 generic functional courses in the business functional area after consultation with the Concentration Advisor.
Culminating Events: Students are expected to complete formal coursework within four academic terms. Additional benchmarks include:

- Take the qualifying exam in Statistics after the first year.
- Prepare the first-year research proposal by the end of the first year’s Summer term.
- Complete the second-year paper requirement by the end of the second year’s Summer term.
- Take the comprehensive exam in International Business Administration after all coursework is completed.
- Write and defend the dissertation proposal.
- Write and defend the final dissertation.

Contacts

Program Web Address:
http://www.fox.temple.edu/phd/international-business/

Department Information:
Fox School of Business and Management
1801 Liacouras Walk
334-337 Alter Hall (006-22)
Philadelphia, PA 19122
foxphdoffice@temple.edu
215-204-7677
Fax: 215-204-5698

Submission Address for Application Materials:
http://fox.force.com/SiteLogin

Department Contacts:
Associate Director, Doctoral Programs:
Lisa Fitch
A336 Alter Hall
foxphdoffice@temple.edu
215-204-7677

Concentration Advisor:
J. Jay Choi
417 Alter Hall
jjchoi@temple.edu
215-204-5084

Business Administration/Management Information Systems, Ph.D.

FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program
The Ph.D. in Business Administration program, with a concentration in Management Information Systems (MIS), prepares the student for advanced research and scholarship. The primary emphasis of our program is to prepare future faculty members for successful academic careers, although many of our alumni are employed in government, industry, and consulting.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered before 4:30 p.m.

Accreditation: All Fox School of Business and Management graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB International).

Areas of Specialization: The primary focus of the MIS faculty is on research in the following areas of E-Business and E-Commerce:

- Computer Support of Communication, Collaboration, and Group Learning
- Data Warehousing and Visualization
- Innovation and Diffusion and Electronic Scholarship
- IS Development and Use
- IS Strategy, Planning, and Sourcing
- Theoretical and Methodological Foundations of IS Research
- Virtual Communities and Knowledge Management

Job Prospects: The program prepares individuals for academic and corporate research careers.

Non-Matriculated Student Policy: Non-matriculated students are not permitted to take doctoral courses.

Financing Opportunities: Typically, all Ph.D. students receive financial assistantship in the form of full tuition remission and a stipend in return for offering services as a Research Assistant (RA) or Teaching Assistant (TA). Level of support is based on the concentration, the applicant’s qualifications, and competitive considerations. Students can also receive remuneration for conference travel, publications, and academic achievement.

Admission Requirements and Deadlines

Application Deadline:
Fall: December 15 for Fellowship consideration, rolling thereafter

APPLY ONLINE (http://fox.force.com/SiteLogin) to this Fox graduate program at http://fox.force.com/SiteLogin.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained from college/university faculty members familiar with the applicant's academic competence.

Master’s Degree in Discipline/Related Discipline: A master’s degree in Management Information Systems or Computer Science is required. An alternative is the completion of specific prerequisite courses.

Bachelor’s Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.
Statement of Goals: Approximately 500 to 1,000 words include your specific interest in Temple’s program; your reasons and motivation for applying for a Ph.D. program in Business Administration; your future career goals; and your academic and research achievements.

Standardized Test Scores: GMAT/GRE: Required. In general, scores above the 90th percentile are expected on each portion of the exam.

TOEFL: 100 iBT or 600 PBT minimum

Resume: Current resume required.

Program Requirements

General Program Requirements: Number of Credits Required to Earn the Degree: 54

Required Courses:

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<tr>
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<td>BA 9100</td>
<td>Math Preparation (August)</td>
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<td>MIS 9002</td>
<td>Inf Sys Found &amp; Theory</td>
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<td>MIS 9003</td>
<td>Foundations of Electronic Commerce Research</td>
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<td>MIS 9004</td>
<td>Adv Research Methods-IS</td>
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Theory and Research Methods Courses

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<tr>
<td>BA 9090</td>
<td>Special Topics in Business Administration</td>
<td>3</td>
</tr>
<tr>
<td>BA 9102</td>
<td>Business Statistics II</td>
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<td>BA 9103</td>
<td>Econ Theory of Choice</td>
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<td>BA 9105</td>
<td>Bus Rsch Econometrics I</td>
<td>3</td>
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<td>BA 9106</td>
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<tr>
<td>or BA 9201</td>
<td>Quant Methods in Bus Res</td>
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<tr>
<td>BA 9207</td>
<td>Quantitative Research Methods II</td>
<td>3</td>
</tr>
<tr>
<td>or BA 9209</td>
<td>Business Econometrics III</td>
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Electives 1 12

Non-Didactic Courses

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<tr>
<td>BA 9998</td>
<td>Pre-Dissertation Research</td>
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<tr>
<td>BA 9999</td>
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<td>Select additional credits of BA 9994, BA 9998, and/or BA 9999</td>
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</tr>
<tr>
<td></td>
<td>Total Credit Hours</td>
<td>54</td>
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</table>

1 Among the recommended electives are BA 9001 Organizations and Management Theory, BA 9104 Game Theory, and BA 9205 Information Economics.

Culminating Events: Students are expected to complete formal coursework within four academic terms. Additional benchmarks include:

- Take the qualifying exam in Statistics after the first year.
- Prepare the first-year research proposal by the end of the first year’s Summer term.
- Complete the second-year paper requirement by the end of the second year’s Summer term.
- Take the MIS preliminary exam by the end of the second year's Summer term. The purpose of the exam is to demonstrate critical and interpretive knowledge of current research in subject areas determined, in advance, by department faculty.
- Write and defend the dissertation proposal, which demonstrates the student's knowledge of and ability to conduct the proposed research. The proposal should consist of:
  a. the context and background surrounding a particular research problem;
  b. an exhaustive survey and review of literature related to the problem; and
  c. a detailed methodological plan for investigating the problem.
- Write and defend the final dissertation, which is an original empirical study that makes a significant contribution to the field. It should expand the existing knowledge and demonstrate the student’s knowledge of both research methods and a mastery of her/his primary area of interest. Dissertations should:
  a. be rigorously investigated;
  b. uphold the ethics and standard of the field;
  c. demonstrate an understanding of the relationship between the primary area of interest and the broader field of business; and
  d. be prepared for publication in an academic journal.

Contacts

Program Web Address: https://community.mis.temple.edu/programs/phd-in-mis/

Department Information:
Fox School of Business and Management
210 Speakman Hall
1810 N. 13th Street
Philadelphia, PA 19122
misdept@temple.edu
215-204-5617

Submission Address for Application Materials:
http://fox.force.com/SiteLogin

Department Contacts:
Associate Director, Doctoral Programs:
Lisa Fitch
A336 Alter Hall
foxphdoffice@temple.edu
215-204-7677

Concentration Advisor:
Sunil Wattal
201E Speakman Hall
swattal@temple.edu
215-204-3059

Business Administration/Marketing, Ph.D.

FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)
About the Program

The Ph.D. in Business Administration program, with a concentration in Marketing, prepares individuals for advanced research and scholarship. The primary emphasis of the program is to prepare future faculty members for successful academic careers, although many of our alumni are employed in government, industry, and consulting.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered before 4:30 p.m.

Accreditation: All Fox School of Business and Management graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB International).

Job Prospects: The program is primarily dedicated to producing well-trained researchers who will work in academic positions.

Non-Matriculated Student Policy: Non-matriculated students are not permitted to take doctoral courses.

Financing Opportunities: Typically, all Ph.D. students receive financial assistantship in the form of full tuition remission and a stipend in return for offering services as a Research Assistant (RA) or Teaching Assistant (TA). Level of support is based on the concentration, the applicant’s qualifications, and competitive considerations. Students can also receive remuneration for conference travel, publications, and academic achievement.

Admission Requirements and Deadlines

Application Deadline:

Fall: January 15

Applications for the Ph.D. program are all processed together after the deadline.

APPLY ONLINE (http://fox.force.com/SiteLogin) to this Fox graduate program at http://fox.force.com/SiteLogin.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators, typically college/university faculty or an immediate work supervisor, who can provide insight into your abilities and talents, as well as comment on your aptitude for graduate study.

Bachelor’s Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Statement of Goals: Approximately 500 to 1,000 words include your specific interest in Temple’s program; your research goals; your future career goals; and your academic and research achievements.

Standardized Test Scores:

GMAT/GRE: Required. GMAT scores are preferred; in some cases, GRE scores may be substituted. In general, scores above the 90th percentile are expected on each portion of the exam.

TOEFL: 105 iBT or 620 PBT minimum

Resume: Current resume required.

Program Requirements

General Program Requirements:

Number of Credits Required to Earn the Degree: 54

Required Courses:

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<thead>
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<th>Credit Hours</th>
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<td>Concentration Pro-Seminar</td>
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<td>Concentration Courses</td>
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<td>Theory and Research Methods Courses</td>
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<td>Electives</td>
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<td></td>
<td>Non-Didactic Courses</td>
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<tr>
<td>BA 9994</td>
<td>Preliminary Examination Preparation</td>
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<td>BA 9998</td>
<td>Pre-Dissertation Research</td>
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<td>2</td>
</tr>
<tr>
<td></td>
<td>Total Credit Hours</td>
<td>54</td>
</tr>
</tbody>
</table>

Additional Requirements: A screening examination is required after completion of the first year of coursework. In addition, two research papers are required:

• The first research paper is written at the end of the first year of study. The objective is to demonstrate progress in developing research capabilities. The student is expected to show initiative in proposing a research idea and developing a research approach. In May, students present a preliminary version of the paper; receive faculty feedback; and then formally submit and present the paper in the Fall term of the second year.

• The second research paper is prepared following completion of the second year of study. The objective is to demonstrate research capability. This paper may be based on the first-year research paper and includes:

  a. research motivation,
  b. literature review,
  c. conceptual model with research hypotheses,
  d. description of methodology, including operationalization of variables and research design,
  e. analysis,
  f. discussion of results, and
  g. specific contributions and implications for theory and practice.

In May of the second year, students present a preliminary version of the research paper; receive faculty feedback; and then formally submit and present the paper at the beginning of the Fall term of the third year. The second-year research paper, which should be publishable in a high-quality academic journal, must be successfully passed before the student can take the comprehensive exam.

Culminating Events:
Comprehensive Examination:
The purpose of the comprehensive examination is to demonstrate critical and interpretive knowledge of current research. The subject areas are determined, in advance, by the faculty of the department. The comprehensive exam should be completed no more than one term after the student completes the coursework component of the program. Students who are preparing to write their comprehensive examination should confirm a time and date with their departmental advisor.

The members of the student's department write the questions for the comprehensive exam. The student must answer every question on the examination in order to be evaluated by the Department Committee. The evaluators look for a breadth and depth of understanding of specific research areas; a critical application of that knowledge to specific phenomena; and an ability to write technical prose. Each member votes to pass or fail the student. In order to pass, a majority of the committee members must agree that the exam has been satisfactorily completed.

Proposal:
The dissertation proposal demonstrates the student's knowledge of and ability to conduct the proposed research. The proposal should consist of the following:

1. the context and background surrounding a particular research problem;
2. an exhaustive survey and review of literature related to the problem; and
3. a detailed methodological plan for investigating the problem.

The proposal should be completed and approved no more than one year after completing coursework. Upon approval, a timeline for completing the investigation and writing process is established.

Dissertation:
The doctoral dissertation is an original empirical study that makes a significant contribution to the field. It should expand the existing knowledge and demonstrate the student's knowledge of both research methods and a mastery of her/his primary area of interest. Dissertations should be rigorously investigated; uphold the ethics and standard of the field; demonstrate an understanding of the relationship between the primary area of interest and the broader field of business; and be prepared for publication in an academic journal.

The Doctoral Advisory Committee is formed to oversee the student's doctoral research and is comprised of at least three Graduate Faculty members. Two members, including the Chair, must be from the student's department. The Chair is responsible for overseeing and guiding the student's progress, coordinating the responses of the committee members, and informing the student of her/his academic progress.

The Dissertation Examining Committee evaluates the student's dissertation and oral defense, including the student's ability to express verbally her/his research question, methodological approach, primary findings, and implications. The Dissertation Examining Committee votes to pass or fail the dissertation and the defense at the conclusion of the public presentation. This committee is comprised of the Doctoral Advisory Committee and at least one additional faculty member from outside the department.

If any member decides to withdraw from the committee, the student shall notify the Chair of the Dissertation Examining Committee and the Ph.D./BA Program Director. The student is responsible for finding a replacement, in consultation with the Chair. Inability to find a replacement shall constitute evidence that the student is unable to complete the dissertation. In such a case, the student may petition the Ph.D./BA Program Director for a review. Once review of the facts and circumstances is completed, the Director will rule on the student's progress. If the Director rules that the student is not capable of completing the dissertation, s/he will be dismissed from the program. This decision may be appealed to the Senior Associate Dean. If dismissed, the student may appeal to the Graduate School.

Students who are preparing to defend their dissertation should confirm a time and date with their Dissertation Examining Committee and register with the Graduate Secretary at least 15 days before the defense is to be scheduled. The Graduate Secretary arranges the time, date, and room within two working days, and forwards to the student the appropriate forms. After the Graduate Secretary has arranged the time, date, and room for the defense, the student must send to the Graduate School a completed "Announcement of Dissertation Defense" form, found in TUportal under the Tools tab within "University Forms," at least 10 days before the defense. The department posts flyers announcing the defense, and the Graduate School announces the defense on its website.

Contacts

Program Web Address:
http://www.fox.temple.edu/phd/marketing/

Department Information:

Fox School of Business and Management
1801 Liacouras Walk
334-337 Alter Hall (006-22)
Philadelphia, PA 19122
foxphdoffice@temple.edu
215-204-7677
Fax: 215-204-5698

Submission Address for Application Materials:

http://fox.force.com/SiteLogin

Department Contacts:

Associate Director, Doctoral Programs:
Lisa Fitch
A336 Alter Hall
foxphdoffice@temple.edu
215-204-7677

Concentration Advisor:
Susan Mudambi
524 Alter Hall
susan.mudambi@temple.edu
215-204-3561

Business Administration/Operations and Supply Chain Management, Ph.D.

FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)
About the Program

The Ph.D. in Business Administration program, with a concentration in Operations and Supply Chain Management, prepares individuals for advanced research and scholarship. The primary emphasis of the program is to prepare future faculty members for successful academic careers, although many of our alumni are employed in government, industry, and consulting.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered before 4:30 p.m.

Accreditation: All Fox School of Business and Management graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB International).

Job Prospects: The program is primarily dedicated to producing well-trained researchers who will work in academic positions.

Non-Matriculated Student Policy: Non-matriculated students are not permitted to take doctoral courses.

Financing Opportunities: Typically, all Ph.D. students receive financial assistantship in the form of full tuition remission and a stipend in return for offering services as a Research Assistant (RA) or Teaching Assistant (TA). Level of support is based on the concentration, the applicant’s qualifications, and competitive considerations. Students can also receive remuneration for conference travel, publications, and academic achievement.

Admission Requirements and Deadlines

Application Deadline:

Fall: January 15

Applications for the Ph.D. program are all processed together after the deadline.

APPLY ONLINE (http://fox.force.com/SiteLogin) to this Fox graduate program at http://fox.force.com/SiteLogin.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators, typically college/university faculty or an immediate work supervisor, who can provide insight into your abilities and talents, as well as comment on your aptitude for graduate study.

Bachelor’s Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Statement of Goals: Approximately 500 to 1,000 words include your specific interest in Temple’s program; your research goals; your future career goals; and your academic and research achievements.

Standardized Test Scores:

GMAT/GRE: Required. GMAT scores are preferred; in some cases, GRE scores may be substituted. In general, scores above the 90th percentile are expected on each portion of the exam.

TOEFL: 105 iBT or 620 PBT minimum

Resume: Current resume required.

Program Requirements

General Program Requirements:

Number of Credits Required to Earn the Degree: 54

Required Courses:

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<th>Credit Hours</th>
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<td>Proseminar in Marketing</td>
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<tr>
<td>MSOM 9101</td>
<td>Continuous and Nonlinear Optimization Methods</td>
<td>3</td>
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<tr>
<td>MSOM 9102</td>
<td>Linear Optimization Methods</td>
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<td>MSOM 9103</td>
<td>Combinatorial and Discrete Optimization</td>
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<td>MKTG 9003</td>
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<td>BA 9208</td>
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<td>MSOM 9104</td>
<td>Stochastic Modeling and Optimization</td>
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<td>BA 9112</td>
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<td>BA 9106</td>
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<td>BA 9207</td>
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<td>BA 9209</td>
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<tr>
<td>BA 9002</td>
<td>Scientific Inquiry-Management Research</td>
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<td>BA 9001</td>
<td>Organizations and Management Theory</td>
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<td>Game Theory</td>
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<td>BA 9205</td>
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<td>BA 9994</td>
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<td>BA 9998</td>
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<td>Select additional credits of BA 9994, BA 9998, and/or BA 9999</td>
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Total Credit Hours: 54

Additional Requirements: A screening examination is required after completion of the first year of coursework. In addition, two research papers are required:

- The first research paper is written at the end of the first year of study. The objective is to demonstrate progress in developing research capabilities. The student is expected to show initiative in proposing a research idea and developing a research approach. In May, students present a preliminary version of the paper; receive faculty feedback; and then formally submit and present the paper in the Fall term of the second year.
- The second research paper is prepared following completion of the second year of study. The objective is to demonstrate research
The doctoral dissertation is an original empirical study that makes a significant contribution to the field. It should expand the existing knowledge and demonstrate the student's knowledge of both research methods and a mastery of her/his primary area of interest. Dissertations should be rigorously investigated; uphold the ethics and standard of the field; demonstrate an understanding of the relationship between the primary area of interest and the broader field of business; and be prepared for publication in an academic journal.

The Doctoral Advisory Committee is formed to oversee the student's doctoral research and is comprised of at least three Graduate Faculty members. Two members, including the Chair, must be from the student's department. The Chair is responsible for overseeing and guiding the student's progress, coordinating the responses of the committee members, and informing the student of her/his academic progress.

The Dissertation Examining Committee evaluates the student's dissertation and oral defense, including the student's ability to express verbally her/his research question, methodological approach, primary findings, and implications. The Dissertation Examining Committee votes to pass or fail the dissertation and the defense at the conclusion of the public presentation. This committee is comprised of the Doctoral Advisory Committee and at least one additional faculty member from outside the department.

If any member decides to withdraw from the committee, the student shall notify the Chair of the Dissertation Examining Committee and the Ph.D./BA Program Director. The student is responsible for finding a replacement, in consultation with the Chair. Inability to find a replacement shall constitute evidence that the student is unable to complete the dissertation. In such a case, the student may petition the Ph.D./BA Program Director for a review. Once review of the facts and circumstances is completed, the Director will rule on the student's progress. If the Director rules that the student is not capable of completing the dissertation, s/he will be dismissed from the program. This decision may be appealed to the Senior Associate Dean. If dismissed, the student may appeal to the Graduate School.

Students who are preparing to defend their dissertation should confirm a time and date with their Dissertation Examining Committee and register with the Graduate School at least 15 days before the defense is to be scheduled. The Graduate Secretary arranges the time, date, and room within two working days, and forwards to the student the appropriate forms. After the Graduate Secretary has arranged the time, date, and room for the defense, the student must send to the Graduate School a completed "Announcement of Dissertation Defense" form, found in TUPortal under the Tools tab within "University Forms," at least 10 days before the defense. The department posts flyers announcing the defense, and the Graduate School announces the defense on its website.

Contacts

Program Web Address:
https://www.fox.temple.edu/phd/operations-supply-chain-management/

Department Information:
Fox School of Business and Management
1801 Liacouras Walk
334-337 Alter Hall (006-22)
Philadelphia, PA 19122
foxphdoffice@temple.edu
215-204-7677
Fax: 215-204-5698

Submission Address for Application Materials:
http://fox.force.com/SiteLogin

Department Contacts:

Associate Director, Doctoral Programs:
Lisa Fitch  
A336 Alter Hall  
foxphdoffice@temple.edu  
215-204-7677

Concentration Advisor:  
Subodha Kumar  
530 Alter Hall  
subodha@temple.edu  
215-204-5919

Business Administration/Risk Management and Insurance, Ph.D.

FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program

The Ph.D. in Business Administration program, with a concentration in Risk Management and Insurance, prepares individuals for advanced research and scholarship. The primary emphasis of the program is to prepare future faculty members for successful academic careers, although many of our alumni are employed in government, industry, and consulting.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered before 4:30 p.m.

Accreditation: All Fox School of Business and Management graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB International).

Job Prospects: The program is primarily dedicated to producing well-trained researchers who will work in academic positions.

Non-Matriculated Student Policy: Non-matriculated students are not permitted to take doctoral courses.

Financing Opportunities: Assistantships are the centerpiece of the program's mentorship philosophy. An assistantship requires 20 hours of service per week, which can include teaching and supervised research. A stipend and tuition remission are provided.

Admission Requirements and Deadlines

Application Deadline:

Fall: January 15

Applications for the Ph.D. program are all processed together after the deadline.

APPLY ONLINE (http://fox.force.com/SiteLogin) to this Fox graduate program at http://fox.force.com/SiteLogin.

Letters of Reference:  
Number Required: 2

From Whom: Letters of recommendation should come from college/university faculty members familiar with the applicant's academic competence.

Master's Degree in Discipline/Related Discipline: A master's degree in a business discipline is required.

Bachelor's Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Statement of Goals: Approximately 500 to 1,000 words include your specific interest in Temple's program; your research goals; your future career goals; and your academic and research achievements.

Standardized Test Scores:  
GRE/GMAT: Required. In general, scores above the 80th percentile are expected on each portion of the exam.

TOEFL: 100 iBT or 600 PBT minimum

Resume: Current resume required.

Program Requirements

General Program Requirements:  
Number of Credits Required to Earn the Degree: 54

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>RMI 9090</td>
<td>Spec Topic Risk Mgt</td>
<td>3</td>
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Concentration Seminars

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>BA 9100</td>
<td>Math Preparation (August)</td>
<td>3</td>
</tr>
<tr>
<td>RMI 9001</td>
<td>Seminar-Property and Liability Insurance Markets</td>
<td>3</td>
</tr>
<tr>
<td>RMI 9002</td>
<td>Seminar-Life Insurance and Employee Benefits</td>
<td>3</td>
</tr>
<tr>
<td>RMI 9003</td>
<td>Seminar in Risk Theory</td>
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Theory and Research Methods Courses

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
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<td>3</td>
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<tr>
<td>BA 9104</td>
<td>Game Theory</td>
<td>3</td>
</tr>
<tr>
<td>BA 9105</td>
<td>Bus Rsch Econometrics I</td>
<td>3</td>
</tr>
<tr>
<td>BA 9106</td>
<td>Bus Rsch Econometrics II</td>
<td>3</td>
</tr>
<tr>
<td>BA 9205</td>
<td>Information Economics</td>
<td>3</td>
</tr>
<tr>
<td>BA 9212</td>
<td>Seminar in Global Finance and Governance</td>
<td>3</td>
</tr>
<tr>
<td>FIN 9001</td>
<td>Corp Finance Theory</td>
<td>3</td>
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<tr>
<td>FIN 9002</td>
<td>Empirical Research in Corporate Finance</td>
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<tr>
<td>FIN 9203</td>
<td>Financial Economics</td>
<td>3</td>
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<td>STAT 8001</td>
<td>Probability and Statistics Theory I</td>
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Electives

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tr>
<td>Electives</td>
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</table>

Total Credit Hours 54

Non-Didactic Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>BA 9994</td>
<td>Preliminary Examination Preparation</td>
<td>1</td>
</tr>
<tr>
<td>BA 9998</td>
<td>Pre-Dissertation Research</td>
<td>1</td>
</tr>
<tr>
<td>BA 9999</td>
<td>Dissertation Research</td>
<td>2</td>
</tr>
<tr>
<td>Select additional credits of BA 9994, BA 9998, and/or BA 9999</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Culminating Events:

Preliminary Examination:
The purpose of the preliminary examination is to demonstrate critical and interpretive knowledge of current research. The subject areas are determined, in advance, by the faculty of the department. The preliminary exam should be completed no more than one term after the student completes the coursework component of the program. Students who are preparing to write their preliminary examinations should confirm a time and date with their departmental advisor.

The members of the student's department write the questions for the preliminary exam. The student must answer every question on the examination in order to be evaluated by the Department Committee. The evaluators look for a breadth and depth of understanding of specific research areas; a critical application of that knowledge to specific phenomena; and an ability to write technical prose. Each member votes to pass or fail the student. In order to pass, a majority of the committee members must agree that the exam has been satisfactorily completed.

Proposal:
The dissertation proposal demonstrates the student's knowledge of and ability to conduct the proposed research. The proposal should consist of the following:

1. the context and background surrounding a particular research problem;
2. an exhaustive survey and review of literature related to the problem; and
3. a detailed methodological plan for investigating the problem.

The proposal should be completed and approved no more than one year after completing coursework. Upon approval, a timeline for completing the investigation and writing process is established.

Dissertation:
The doctoral dissertation is an original empirical study that makes a significant contribution to the field. It should expand the existing knowledge and demonstrate the student's knowledge of both research methods and a mastery of her/his primary area of interest. Dissertations should be rigorously investigated; uphold the ethics and standard of the field; demonstrate an understanding of the relationship between the primary area of interest and the broader field of business; and be prepared for publication in an academic journal.

The Doctoral Advisory Committee is formed to oversee the student's doctoral research and is comprised of at least three Graduate Faculty members. Two members, including the Chair, must be from the student's department. The Chair is responsible for overseeing and guiding the student's progress, coordinating the responses of the committee members, and informing the student of her/his academic progress.

The Dissertation Examining Committee evaluates the student's dissertation and oral defense, including the student's ability to express verbally her/his research question, methodological approach, primary findings, and implications. The Dissertation Examining Committee votes to pass or fail the dissertation and the defense at the conclusion of the public presentation. This committee is comprised of the Doctoral Advisory Committee and at least one additional faculty member from outside the department.

If any member decides to withdraw from the committee, the student shall notify the Chair of the Dissertation Examining Committee and the Ph.D./BA Program Director. The student is responsible for finding a replacement, in consultation with the Chair. Inability to find a replacement shall constitute evidence that the student is unable to complete the dissertation. In such a case, the student may petition the Ph.D./BA Program Director for a review. Once review of the facts and circumstances is completed, the Director will rule on the student's progress. If the Director rules that the student is not capable of completing the dissertation, s/he will be dismissed from the program. This decision may be appealed to the Senior Associate Dean. If dismissed, the student may appeal to the Graduate School.

Students who are preparing to defend their dissertation should confirm a time and date with their Dissertation Examining Committee and register with the Graduate Secretary at least 15 days before the defense is to be scheduled. The Graduate Secretary arranges the time, date, and room within two working days, and forwards to the student the appropriate forms. After the Graduate Secretary has arranged the time, date, and room for the defense, the student must send to the Graduate School a completed “Announcement of Dissertation Defense” form, found in TUportal under the Tools tab within “University Forms,” at least 10 days before the defense. The department posts flyers announcing the defense, and the Graduate School announces the defense on its website.

Contacts
Program Web Address:
http://www.fox.temple.edu/phd/risk-management-and-insurance/

Department Information:
Fox School of Business and Management
1801 Liacouras Walk
334-337 Alter Hall (006-22)
Philadelphia, PA 19122
foxphdoffice@temple.edu
215-204-7677
Fax: 215-204-5698

Submission Address for Application Materials:
http://fox.force.com/SiteLogin

Department Contacts:
Associate Director, Doctoral Programs:
Lisa Fitch
A336 Alter Hall
foxphdoffice@temple.edu
215-204-7677

Concentration Advisor:
J. David Cummins
334 Alter Hall
cummins@temple.edu
215-204-8456

Business Administration/Strategic Management, Ph.D.

FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program

The Ph.D. in Business Administration program, with a concentration in Strategic Management, engages the student in advanced research and
scholarship. The primary emphasis of the program is to prepare future faculty members for successful academic careers, although many of our alumni are employed in government, industry, and consulting.

**Time Limit for Degree Completion:** 7 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** Students complete the degree program through classes offered before 4:30 p.m.

**Accreditation:** All Fox School of Business and Management graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB International).

**Job Prospects:** The program is primarily dedicated to producing well-trained researchers who will work in academic positions.

**Non-Matriculated Student Policy:** Non-matriculated students are not permitted to take doctoral courses.

**Financing Opportunities:** Assistantships are the centerpiece of the program's mentorship philosophy. An assistantship requires 20 hours of service per week, which can include teaching and supervised research. A stipend and tuition remission are provided.

**Admission Requirements and Deadlines**

**Application Deadline:**

*Fall:* January 15

Applications for the Ph.D. program are all processed together after the deadline.

APPLY ONLINE (http://fox.force.com/SiteLogin) to this Fox graduate program at http://fox.force.com/SiteLogin.

**Letters of Reference:**

*Number Required:* 2

*From Whom:* Letters of recommendation should be obtained from college/university faculty members familiar with the applicant's academic competence.

**Master's Degree in Discipline/Related Discipline:** A master's degree in a business discipline is required.

**Bachelor's Degree in Discipline/Related Discipline:** All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

**Statement of Goals:** Approximately 500 to 1,000 words include your specific interest in Temple's program; your research goals; your future career goals; and your academic and research achievements.

**Standardized Test Scores:**

GRE/GMAT: Required. In general, scores above the 90th percentile are expected on each portion of the exam.

TOEFL: 100 iBT or 600 PBT minimum

**Resume:** Current resume required.

**Program Requirements**

**General Program Requirements:**

**Number of Credits Required to Earn the Degree:** 54

**Required Courses:**

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<tr>
<th>Code</th>
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<tr>
<td>SGM 9212</td>
<td>Strategic Management of Technology and Innovation</td>
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**Concentration Seminars**

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tr>
<td>BA 9100</td>
<td>Math Preparation (August)</td>
<td>3</td>
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<td>BA 9101</td>
<td>Business Statistics I</td>
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<tr>
<td>BA 9102</td>
<td>Business Statistics II</td>
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<td>SGM 9001</td>
<td>Seminar: Strategic Form - Environmental Analysis</td>
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<tr>
<td>SGM 9003</td>
<td>Seminar: Management Control</td>
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<tr>
<td>SGM 9211</td>
<td>Theor Fndns in Entrepr</td>
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**Theory and Research Methods Courses**

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>BA 9001</td>
<td>Organizations and Management Theory</td>
<td>3</td>
</tr>
<tr>
<td>BA 9002</td>
<td>Scientific Inquiry-Management Research</td>
<td>3</td>
</tr>
<tr>
<td>BA 9103</td>
<td>Econ Theory of Choice</td>
<td>3</td>
</tr>
<tr>
<td>BA 9105</td>
<td>Bus Rsrch Econometrics I</td>
<td>3</td>
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<td>BA 9106</td>
<td>Bus Rsrch Econometrics II</td>
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<tr>
<td>IB 9001</td>
<td>Theory-Int Bus &amp; Mitnit</td>
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</tr>
<tr>
<td>SGM 9090</td>
<td>Spec Topic Strategy</td>
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**Electives**

Select two from the following:

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<tr>
<td>BA 9003</td>
<td>Seminar in Organizational Behavior</td>
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<tr>
<td>BA 9104</td>
<td>Game Theory</td>
</tr>
<tr>
<td>BA 9207</td>
<td>Quantitative Research Methods II</td>
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Other non-SGM elective(s)

**Non-Didactic Courses**

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<tr>
<th>Code</th>
<th>Title</th>
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<td>BA 9994</td>
<td>Preliminary Examination Preparation</td>
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</tr>
<tr>
<td>BA 9999</td>
<td>Dissertation Research</td>
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</tbody>
</table>

Select additional credits of BA 9994, BA 9998, and/or BA 9999 2

**Total Credit Hours:** 54

**Additional Requirements:**

**Statistics Competency Examination:**

An assessment of proficiency in statistical theory and methodology is made at the end of the first year in the program. Students who fail the Statistics competency exam on the first attempt must sit for reexamination prior to the Fall term of their second year. A second failure results in dismissal from the program. No third attempt is permitted.

**Teaching Experience:**

The student must earn at least one term's experience teaching.

**Culminating Events:**

**Preliminary Examination:**

The purpose of the preliminary examination is to demonstrate critical and interpretive knowledge of current research. The subject areas are determined, in advance, by the faculty of the department. The preliminary exam should be completed no more than one term after the student completes the coursework component of the program. Students who are preparing to write their preliminary examinations should confirm a time and date with their departmental advisor.
The members of the student's department write the questions for the preliminary exam. The student must answer every question on the examination in order to be evaluated by the Department Committee. The evaluators look for a breadth and depth of understanding of specific research areas; a critical application of that knowledge to specific phenomena; and an ability to write technical prose. Each member votes to pass or fail the student. In order to pass, a majority of the committee members must agree that the exam has been satisfactorily completed.

Proposal:
The dissertation proposal demonstrates the student's knowledge of and ability to conduct the proposed research. The proposal should consist of the following:

1. the context and background surrounding a particular research problem;
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3. a detailed methodological plan for investigating the problem.

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Students who are preparing to defend their dissertation should confirm a time and date with their Dissertation Examining Committee and register with the Graduate Secretary at least 15 days before the defense is to be scheduled. The Graduate Secretary arranges the time, date, and room within two working days, and forwards to the student the appropriate forms. After the Graduate Secretary has arranged the time, date, and room for the defense, the student must send to the Graduate School a completed "Announcement of Dissertation Defense" form, found in TUportal under the Tools tab within "University Forms," at least 10 days before the defense. The department posts flyers announcing the defense, and the Graduate School announces the defense on its website.

Contacts
Program Web Address:
http://www.fox.temple.edu/phd/strategic-management/

Department Information:
Fox School of Business and Management
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Fax: 215-204-5698

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Department Contacts:
Associate Director, Doctoral Programs:
Lisa Fitch
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foxphdoffice@temple.edu
215-204-7677

Concentration Advisors:
Susan Feinberg
555 Alter Hall
feinberg@temple.edu
215-204-2219

Mitrabarun Sarkar
543 Alter Hall
mbsarkar@temple.edu
215-204-1692

Business Administration/Tourism and Sport, Ph.D.

FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program
The Ph.D. in Business Administration program, with a concentration in Tourism and Sport, prepares individuals for advanced research and scholarship. The primary emphasis of the program is to prepare future
faculty members for successful academic careers, although many of our alumni are employed in government, industry, and consulting.

**Time Limit for Degree Completion:** 7 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** Students complete the degree program through classes offered before 4:30 p.m.

**Affiliation(s):** The Tourism and Sport faculty are conducting research for the following agencies: Commonwealth of Pennsylvania, Greater Philadelphia Tourism Marketing Corporation, Greater Reading (PA) Convention and Visitors Bureau, Office of Travel and Tourism Industries, and Special Olympics of North America.

**Accreditation:** All Fox School of Business and Management graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB International).

**Areas of Specialization:** The primary focus of the Tourism and Sport faculty is on empirical research in corporate social responsibility, information technology, participant sports, and tourism destination marketing. In particular, Tourism and Sport faculty have received significant research funding to perform studies on travel and tourism patterns, as well as travel decisions based on website design. The faculty's varied research interests are conducive to multiple management disciplines within the tourism and sport industries.

**Job Prospects:** The program is primarily dedicated to producing well-trained researchers who will work in academic positions.

**Non-Matriculated Student Policy:** Non-matriculated students are not permitted to take doctoral courses.

**Financing Opportunities:** Assistantships are the centerpiece of the program’s mentorship philosophy. An assistantship requires 20 hours of service per week, which can include teaching and supervised research. A stipend and tuition remission are provided.

**Admission Requirements and Deadlines**

**Application Deadline:**

**Fall:** January 15

Applications for the Ph.D. program are all processed together after the deadline.

APPLY ONLINE (http://fox.force.com/SiteLogin) to this Fox graduate program at http://fox.force.com/SiteLogin.

**Letters of Reference:**

**Number Required:** 2

**From Whom:** Letters of recommendation should be obtained from college/university faculty members familiar with the applicant's academic competence.

**Master’s Degree in Discipline/Related Discipline:** A master’s degree in a business or tourism/sport discipline is required.

**Bachelor’s Degree in Discipline/Related Discipline:** All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

**Statement of Goals:** Approximately 500 to 1,000 words include your specific interest in Temple’s program; your research goals; your future career goals; and your academic and research achievements.

**Standardized Test Scores:**

- **GMAT/GRE:** Required. A minimum score does not ensure admission to the program.
- For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:
  - TOEFL: 100 iBT or 600 PBT minimum
  - IELTS Academic: 6.5 minimum
  - PTE Academic: 53 minimum

**Interview:** The interview requirement can be fulfilled either in person or via telephone. Interviews are scheduled for those students who meet all other admission standards.

**Resume:** Current resume required.

**Program Requirements**

**General Program Requirements: Number of Credits Required to Earn the Degree:** 54

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>BA 9100</td>
<td>Math Preparation (August)</td>
<td>3</td>
</tr>
<tr>
<td>BA 9101</td>
<td>Business Statistics I</td>
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<tr>
<td>BA 9102</td>
<td>Business Statistics II</td>
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**Concentration Courses**

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>STHM 9001</td>
<td>Research Seminar</td>
<td>3</td>
</tr>
<tr>
<td>STHM 9002</td>
<td>Seminar in Theory Development: Tourism and Sport Concepts</td>
<td>3</td>
</tr>
<tr>
<td>STHM 9090</td>
<td>Special Topics in Tourism and Sport (2 terms)</td>
<td>6</td>
</tr>
<tr>
<td>STHM 9482</td>
<td>Independent Study</td>
<td>3</td>
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</tbody>
</table>

**Theoretical Foundations**

Select at least four foundation theoretical courses from the following: 12

- Theoretical Foundations in the Behavioral and Social Sciences 2
- Theoretical Foundations in Economics
- BA 9104 | Game Theory                                         | 3            |
- BA 9108 | Capital Markets Research                            | 3            |
- BA 9203 | Financial Economics                                  | 3            |
- BA 9205 | Information Economics                                | 3            |
- Theoretical Foundations in Key Management Disciplines
- BA 9201 | Quant Methods in Bus Res                            | 3            |
- IB 9001 | Theory-Int Bus & MultiNat                            | 3            |

**Methodological Foundations**

Select at least 3 methodological foundation courses from the following: 9

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>BA 9002</td>
<td>Scientific Inquiry-Management Research</td>
<td>3</td>
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<tr>
<td>BA 9105</td>
<td>Bus Rsch Econometrics I</td>
<td>3</td>
</tr>
<tr>
<td>BA 9106</td>
<td>Bus Rsch Econometrics II</td>
<td>3</td>
</tr>
</tbody>
</table>
Students who fail the preliminary examination on the first attempt are permitted to sit for reexamination no later than six months after being notified of the failure. A member of the Preliminary Examination Committee provides feedback by identifying areas of failure and suggestions for remediation. A second failure results in dismissal from the University. No third attempt is allowed.

Proposal:
The dissertation proposal demonstrates the student's knowledge of and ability to conduct the proposed research. The proposal should consist of the following:

1. the context and background surrounding a particular research problem;
2. an exhaustive survey and review of literature related to the problem; and
3. a detailed methodological plan for investigating the problem.

The proposal should be completed and approved no more than one year after completing coursework. Upon approval, a timeline for completing the investigation and writing process is established.

Dissertation:
The doctoral dissertation is an original empirical study that makes a significant contribution to the field. It should expand the existing knowledge and demonstrate the student’s knowledge of both research methods and a mastery of her/his primary area of interest. Dissertations should be rigorously investigated; uphold the ethics and standard of the field; demonstrate an understanding of the relationship between the primary area of interest and the broader field of business; and be prepared for publication in an academic journal.

The Doctoral Advisory Committee is formed to oversee the student's doctoral research and is comprised of at least three Graduate Faculty members. Two members, including the Chair, must be from the student's department. The Chair is responsible for overseeing and guiding the student's progress, coordinating the responses of the committee members, and informing the student of her/his academic progress.

The Dissertation Examining Committee evaluates the student's dissertation and oral defense, including the student's ability to express verbally her/his research question, methodological approach, primary findings, and implications. The Dissertation Examining Committee votes to pass or fail the dissertation and the defense at the conclusion of the public presentation. This committee is comprised of the Doctoral Advisory Committee and at least one additional faculty member from outside the department.

If any member decides to withdraw from the committee, the student shall notify the Chair of the Dissertation Examining Committee and the Ph.D./BA Program Director. The student is responsible for finding a replacement, in consultation with the Chair. Inability to find a replacement shall constitute evidence that the student is unable to complete the dissertation. In such a case, the student may petition the Ph.D./BA Program Director for a review. Once review of the facts and circumstances is completed, the Director will rule on the student's progress. If the Director rules that the student is not capable of completing the dissertation, s/he will be dismissed from the program. This decision may be appealed to the Senior Associate Dean. If dismissed, the student may appeal to the Graduate School.

Students who are preparing to defend their dissertation should confirm a time and date with their Dissertation Examining Committee and register with the Graduate Secretary at least 15 days before the defense is to be
The Graduate Secretary arranges the time, date, and room within two working days, and forwards to the student the appropriate forms. After the Graduate Secretary has arranged the time, date, and room for the defense, the student must send to the Graduate School a completed "Announcement of Dissertation Defense" form, found in Tuportal under the Tools tab within "University Forms," at least 10 days before the defense. The department posts flyers announcing the defense, and the Graduate School announces the defense on its website.

Contacts
Program Web Address:
http://www.fox.temple.edu/phd/tourism-and-sport/

Department Information:
Fox School of Business and Management
1801 Liacouras Walk
334-337 Alter Hall (006-22)
Philadelphia, PA 19122
foxphdoffice@temple.edu
215-204-7677
Fax: 215-204-5698

Submission Address for Application Materials:
http://fox.force.com/SiteLogin

Department Contacts:
Associate Director, Doctoral Programs:
Lisa Fitch
A336 Alter Hall
foxphdoffice@temple.edu
215-204-7677

Concentration Advisor:
Daniel Funk
300 Speakman Hall
dfunc@temple.edu
215-204-1941

Business Administration Executive Program, M.B.A.

FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program
The Fox School of Business and Management offers M.B.A. programs that help develop a solid understanding of business models created by the synergistic forces of globalization, entrepreneurship, and information technology. Our approach to graduate education helps develop practical expertise through case analyses, presentations, interaction with business practitioners, and team projects. The Fox School prepares students to step immediately into key management roles in highly specialized fields. The Fox School of Business and Management is the region’s second largest business graduate school with more than 1,300 students studying in 16 areas of concentration, including the region’s second oldest Executive M.B.A. program.

Time Limit for Degree Completion: 6 years

Campus Location: Hub Commerce Square and online

Full-Time/Part-Time Status: Executive M.B.A. students are considered full-time students.

Affiliation(s): Research is supported by Fox School of Business and Management's Advanta Center for Research in Financial Institutions, Center for Healthcare Research and Management, Innovation and Entrepreneurship Institute, and Institute of Global Management Studies. Research interests of the Fox School faculty are also supported by numerous centers and institutes throughout Temple University.

Study Abroad: A required international trip is arranged for the students of the E.M.B.A. program.

Accreditation: All Fox School of Business and Management graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB International).

Areas of Specialization: The Executive M.B.A. program is designed to mirror a real work environment with students assigned to teams. E.M.B.A. students work extensively in these teams to prepare assignments and presentations. Support is given by the faculty on how to manage a successful team environment.

Job Prospects: Graduates of the Fox School of Business and Management obtain jobs in computer/information technology; consulting; consumer products and services; energy/utilities; financial services/banking; government; healthcare; industrial products and services; manufacturing; pharmaceuticals; telecommunications; and tourism/transportation.

Non-Matriculated Student Policy: The Executive M.B.A. program is a cohort program, and courses may not be taken on a non-matriculated basis.

Financing Opportunities: Executive M.B.A. students at the Fox School of Business and Management may be considered for merit-based scholarships. No additional forms, application essays, or recommendations are required.

The Fox School’s Executive M.B.A. Corporate Partner Scholarship Program enables its corporate partners, as identified at http://www.fox.temple.edu/industry-and-recruiters/partner-with-fox/, to continue offering educational opportunities to employees amid budgetary constraints. The program provides scholarship opportunities for students when more than one employee from the same company attends the Fox E.M.B.A. program in a given year.

Admission Requirements and Deadlines
Application Deadline:

Fall:
- December 15 – Early Decision Deadline
- March 1 – Scholarship Deadline and International Deadline
- June 30 – Final Deadline

Applications are reviewed as they are received and can sometimes be considered after the deadline.
APPLY ONLINE (http://fox.force.com/SiteLogin) to this Fox graduate program at http://fox.force.com/SiteLogin.

Letters of Reference:
Number Required: 2

From Whom: Professional references from an immediate supervisor, current or past, are preferred. Academic references are acceptable.

Coursework Required for Admission Consideration: Although no specific courses are required for admission consideration, applicants to the Executive M.B.A. program are expected to have approximately 10 years of experience, with 5-7 years of managerial experience.

Bachelor’s Degree in Discipline/Related Discipline: A bachelor’s degree, not necessarily in a business discipline, is required.

Statement of Goals: Two essays are required, one each on:

- Leadership: Please describe an incident from your personal experiences that typifies your definition of leadership. Specifically address ethics, diversity, collaboration, and motivation.
- Goals: Describe how you would expect to change over the course of the program. What personal and professional values and skills do you hope to acquire beyond academic content? How will obtaining the degree help you achieve your career goals?

An optional statement can also be submitted.

Standardized Test Scores:
GMAT: Required. Official scores must be reported from a GMAT test taken within the last five years.

TOEFL: 79 iBT or 550 PBT minimum

Test Waivers: The GMAT may be waived for applicants who hold a J.D., M.D., or other doctoral degree. For the Executive M.B.A. program, GMAT scores may also be waived based on prior academics and/or technical and professional experience.

Interview: Admissions interviews are conducted by invitation only, after submission and initial review of applications.

Resume: Current resume required.

Other: Students must submit a corporate sponsorship agreement.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 48, all of which must be completed at Temple University

Required Courses:

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>ACCT 5801</td>
<td>Fin Info Reporting &amp; Analysis</td>
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<tr>
<td>BA 5113</td>
<td>The Valuation of Firms</td>
<td>1.5</td>
</tr>
<tr>
<td>BA 5801</td>
<td>Industrial Organization and Corporate Strategy</td>
<td>3</td>
</tr>
<tr>
<td>BA 5804</td>
<td>Global Enterprise Mgt</td>
<td>3</td>
</tr>
<tr>
<td>BA 5851</td>
<td>Strategy Formulation and Administration</td>
<td>3</td>
</tr>
<tr>
<td>FIN 5802</td>
<td>Enterprise Financial Management</td>
<td>3</td>
</tr>
<tr>
<td>HRM 5802</td>
<td>Leading and Managing Teams and Individuals</td>
<td>3</td>
</tr>
<tr>
<td>HRM 5804</td>
<td>Managing and Developing Human Capital in the Enterprise</td>
<td>3</td>
</tr>
<tr>
<td>LGLS 5801</td>
<td>Business Ethics</td>
<td>3</td>
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<td>MIS 5801</td>
<td>Managing Information</td>
<td>3</td>
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<tr>
<td>MKTG 5801</td>
<td>Marketing Management in the Enterprise</td>
<td>3</td>
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<tr>
<td>MKTG 5890</td>
<td>Special Topics in Marketing</td>
<td>4.5</td>
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<tr>
<td>MSOM 5806</td>
<td>Managing Operations in the Enterprise</td>
<td>3</td>
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<tr>
<td>RMI 5801</td>
<td>Enterprise Risk Management</td>
<td>3</td>
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<tr>
<td>SGM 5801</td>
<td>Contemporary Corporate Strategy</td>
<td>3</td>
</tr>
<tr>
<td>STAT 5801</td>
<td>Statistical Analysis for Management</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours 48

Culminating Events:
Capstone Course Sequence:
Students are required to successfully complete the capstone course sequence. The purpose of the capstone sequence is to ensure that M.B.A. candidates have mastered the skills necessary to conduct business analyses. The capstone sequence is graded in the normal manner by the instructor.

Contacts

Program Web Address:

Department Information:
Fox School of Business and Management
1801 Liacouras Walk
701 Alter Hall (006-22)
Philadelphia, PA 19122
foxinfo@temple.edu
215-204-7678

Submission Address for Application Materials:
http://fox.force.com/SiteLogin

Department Contacts:
Admissions:
Fox Graduate Admissions Office
foxinfo@temple.edu
215-204-5890

Senior Associate Director:
Brooke Stewart
brooke.stewart@temple.edu
215-204-4721

Associate Vice Dean, M.B.A. and Specialized Master’s Programs:
Christine Kiely
ckiely@temple.edu
215-204-7678

Business Administration Executive Program, D.B.A.

FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)
About the Program

The Executive D.B.A. is a three-year, part-time program that prepares senior managers and executives to rigorously discover, describe, study, and solve practical problems faced every day. Individuals are prepared to approach problems as evidence-based managers by using the tools and techniques of applied business research on issues relevant in the industry.

Time Limit for Degree Completion: 7 years

Campus Location: Three 3-day residencies are required in each of the first four academic terms. Residency coursework may be delivered at the residency location, and other coursework delivered via web conferencing tools.

Full-Time/Part-Time Status: The program is designed for part-time study.

Affiliation(s): Research is supported by Fox School of Business and Management's Advanta Center for Research in Financial Institutions, Center for Healthcare Research and Management, Innovation and Entrepreneurship Institute, and Institute of Global Management Studies. Research interests of the Fox School faculty are also supported by numerous centers and institutes throughout Temple University.

Accreditation: All Fox School of Business and Management graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB International).

Job Prospects: The program prepares graduates for corporate careers.

Non-Matriculated Student Policy: All participants in the Executive D.B.A. must be matriculated.

Financing Opportunities: Students are responsible for the total cost of the program. Tuition includes books, lodging, and most meals during the required residencies. Students are responsible for travel to and from the on-campus residences.

Admission Requirements and Deadlines

Application Deadline:

Fall: June 30

Applications are processed as they are received throughout the year.

APPLY ONLINE (http://fox.force.com/SiteLogin) to this Fox graduate program at http://fox.force.com/SiteLogin.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained from individuals familiar with the applicant's demonstrated leadership, academic potential, and critical thinking skills.

Master's Degree in Discipline/Related Discipline: Applicants should have at least 12 years of management experience, with at least 7 years at the senior management or executive level. They should hold an M.B.A. or other relevant business-focused master's degree. Exceptional candidates with a bachelor's degree and substantial managerial experience are also considered.

Bachelor's Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Statement of Goals: Describe your goals and motivations for pursuing the Executive D.B.A. degree, as well as detail your area of research interest.

Standardized Test Scores: No standardized tests are required for admission, but scores may be submitted if the applicant desires.

Admissions Essay: A personal statement describing your plan to balance the program's time commitments of about 15 hours per week with your work schedule and other demands is required.

Interview: Candidates may be interviewed after submission of the application. If an interview is scheduled, on-site interviews are strongly recommended so that applicants can visit Temple University and Fox School of Business and Management to tour the facilities and meet the Executive D.B.A. faculty. Interviews may also be conducted via video conference.

Resume: A current resume that highlights professional experience and education is required.

Program Requirements

General Program Requirements:

Number of Credits Required to Earn the Degree: 54

Required Courses:

<table>
<thead>
<tr>
<th>Year 1</th>
<th></th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>Fall</td>
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<tr>
<td>BA 9801 Understanding the Firm through Management and Organizational Theory (F)</td>
<td>3</td>
<td></td>
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<tr>
<td>BA 9802 Scientific Inquiry through Applied Research (M)</td>
<td>3</td>
<td></td>
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<tr>
<td>BA 9813 Problem Solving using Quantitative Research Methods (M)</td>
<td>3</td>
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<tr>
<td>Term Credit Hours</td>
<td>9</td>
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<tr>
<td>Spring</td>
<td></td>
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<tr>
<td>BA 9803 Navigating the Global Marketplace (F)</td>
<td>3</td>
<td></td>
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<tr>
<td>BA 9806 Integrative Perspectives on Business Knowledge (F)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BA 9815 Problem Solving using Qualitative Research Methods (M)</td>
<td>3</td>
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<tr>
<td>Term Credit Hours</td>
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<tr>
<td>Summer</td>
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<td>BA 9883 Directed Reading/Study (R)</td>
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<td>Term Credit Hours</td>
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<td>Year 2</td>
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<td>Fall</td>
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<tr>
<td>BA 9812 Innovation and Entrepreneurship in the New Economy (F)</td>
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<td>BA 9814 Advanced Quantitative Research Methods (M)</td>
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<td>BA 9883 Directed Reading/Study (R)</td>
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<tr>
<td>Term Credit Hours</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Spring</td>
<td></td>
<td></td>
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</tbody>
</table>
BA 9816  Creation and Dissemination of Business Knowledge (M)  3
BA 9883  Directed Reading/Study (R)  3
BA 9890  Special Topics in Business Research (F)  3

Term Credit Hours  9

Summer
BA 9994  Preliminary Examination Preparation (R)  3

Term Credit Hours  3

Year 3
Fall
BA 9998  Pre-Dissertation Research  6

Term Credit Hours  6

Spring
BA 9999  Dissertation Research (Dissertation Defense)  6

Term Credit Hours  6

Total Credit Hours:  54

Culminating Events:

Proposal:
The doctoral dissertation is an original investigation that makes a significant contribution to the field. It should expand the existing body of knowledge and demonstrate the student’s own knowledge of both research methods and a mastery of her/his primary area of interest. In consultation with the committee chair, the proposal should include a statement of the general research problem and motivation for the research, the questions or hypotheses to be investigated, the relevance of the problem to business theory and practice, a review of relevant literature, an outline of the dissertation, a detailed description of the methodology to be used, and expected contributions and practical implications. Executive D.B.A. students should defend their dissertation proposal defense in the Fall of their third year.

Dissertation:
The Dissertation Examining Committee evaluates the student’s dissertation and oral defense, including the student’s ability to express verbally her/his research question, methodological approach, primary findings, and implications. The Dissertation Examining Committee votes to pass, conditionally pass, or fail the dissertation and the defense at the conclusion of the public presentation based on whether the requirements laid out in the dissertation proposal and agreed upon by the committee and the student have been successfully met.

Executive D.B.A. students should defend their dissertation in the Spring of their third year. Students who are preparing to defend their dissertation should confirm a time and date with their Dissertation Examining Committee and register with the Graduate Secretary at least 15 days before the defense is to be scheduled. After the Graduate Secretary has arranged the time, date, and room for the defense, the student must send to the Graduate School a completed “Announcement of Dissertation Defense” form, found in TUportal under the Tools tab within “University Forms,” at least 10 days before the defense. The department publicly announces the defense, and the Graduate School announces the defense on its website.

Contacts

Program Web Address:

Department Information:
Fox School of Business and Management
1801 Liacouras Walk
334-337 Alter Hall (006-22)
Philadelphia, PA 19122
ExecDBA@temple.edu
215-204-4291

Submission Address for Application Materials:
http://fox.force.com/SiteLogin

Department Contacts:

Associate Director, Executive DBA:
Deborah Haak
A334 Alter Hall
deborah.haak@temple.edu
215-204-4291

Academic Director:
David Schuff
207G Speakman Hall
david.schuff@temple.edu
215-204-3078

Managing Director:
Steve Casper
435 Alter Hall
scasper@temple.edu
Cell: 609-273-3347

Business Analytics, M.S.

FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program

The M.S. in Business Analytics is designed to enable graduates to use data and models to recognize opportunities and improve organizational decision making. Data-driven decision making has been shown to have large positive effects on outcomes of interest to organizations of all types. This degree leverages the ever-increasing importance of data as a strategic asset to organizations, with students enhancing their analytic toolkit with a holistic view of how to improve decision making through analytics. The M.S. in Business Analytics is designed to allow students to acquire advanced skills and techniques that can be applied to discipline-specific and more general business problems. Graduates are prepared to meet the growing demand for talent in the areas of managing, analyzing, predicting, and discovering insights from the complex data available to modern corporations.

Time Limit for Degree Completion: 5 years

Campus Location: Center City, Online
Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Affiliation(s): Research is supported by Fox School of Business and Management’s Center for Data Analytics, Center for Data Science, Center for Statistical Analysis, and numerous grants from government and industry.

Accreditation: All Fox School of Business and Management graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB International).

Job Prospects: Graduates are hired into various positions, such as:

- Big Data Analytics Specialist
- Data Analyst
- Data Scientist
- Management Analyst/Consultant
- Manager of Services or Manufacturing Operations
- Market Research Analyst
- Project Manager
- Research Analyst
- Supply Chain Manager

Non-Matriculated Student Policy: Students with an undergraduate GPA of 3.25 or higher may be allowed to take classes under non-matriculated status. Non-matriculated students may take a maximum of 9 credits. Any additional courses require the student to be matriculated in a program, to pursue the certificate, or to enroll in the 4+1 program.

Financing Opportunities: Citizens and permanent residents of the United States are considered domestic students and are typically eligible for federal student loans as well as alternative loans through private lenders. The Fox School grants 5% tuition scholarships to alumni who are admitted to the program. Scholarship funds are limited and available based on merit.

Employment opportunities on campus are limited. Many students find opportunities for work off campus. Note that international students must follow visa requirements.

Admission Requirements and Deadlines

Application Deadline:

Fall:

- December 15 – Early Decision Deadline
- March 1 – Scholarship Deadline and International Deadline
- June 30 – Final Deadline

Applications are reviewed as they are received and can sometimes be considered after the deadline.

APPLY ONLINE (http://fox.force.com/SiteLogin) to this Fox graduate program at http://fox.force.com/SiteLogin.

Letters of Reference:

Number Required: 2

From Whom: Professional references from an immediate supervisor, current or past, are preferred. Academic references are acceptable.

Bachelor’s Degree in Discipline/Related Discipline: A baccalaureate degree is required.

Statement of Goals: Describe your future goals in specific terms and how the M.S. will assist you in achieving those goals.

Standardized Test Scores:

GRE/GMAT: Required. Scores for the GRE typically fall within the following percentile ranges: 50 to 99 Verbal; 80 to 99 Quantitative.

For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:

TOEFL: 100 iBT or 600 PBT minimum

IELTS: 7.5

PTE Academic: 72 minimum

Resume: Current resume required.

Transfer Credit: Upper-level graduate credits from an AACSB-accredited graduate business program, but not previously applied to a conferred degree, may be transferred into the M.S. program. The credits must be part of the required degree program at Temple University. To be transferred, the grade must be a "B" or better. The Admissions Committee makes recommendations for transferring credits to the department chair. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>BA 5687</td>
<td>MS Advanced Professional Development Strategies</td>
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<tr>
<td>STAT 5001</td>
<td>Quantitative Methods for Business</td>
<td>3</td>
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<tr>
<td>STAT 5602</td>
<td>Visualization: The Art of Numbers and the Psychology of Persuasion</td>
<td>3</td>
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<tr>
<td>STAT 5603</td>
<td>Statistical Learning and Data Mining</td>
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<td>STAT 5604</td>
<td>Experiments: Knowledge by Design</td>
<td>3</td>
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<td>STAT 5605</td>
<td>Decision Models: From Data to Decisions</td>
<td>3</td>
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<tr>
<td>STAT 5606</td>
<td>Data: Care, Feeding, and Cleaning</td>
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<td>STAT 5607</td>
<td>Advanced Business Analytics</td>
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<tr>
<td>Electives</td>
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<tr>
<td>MKTG 5613</td>
<td>Customer Data Analytics 1 (AND)</td>
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<td>MKTG 5614</td>
<td>Customer Data Analytics 2</td>
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<td>MKTG 5617</td>
<td>Market Research 1: Foundations of Marketing Research (AND)</td>
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<tr>
<td>MKTG 5618</td>
<td>Market Research 2: Marketing Intelligence</td>
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<td>STAT 8109</td>
<td>Applied Statistics and Data Science</td>
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<td>STAT 8111</td>
<td>Survey Techniques for Business Applications</td>
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<tr>
<td>STAT 8116</td>
<td>Categorical Data Analysis</td>
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</table>
Corporate Compliance and Ethics, M.S.
FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program
This program is not accepting applications for the 2018-2019 academic year.

Decision Neuroscience, Ph.D.
FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program
The field of decision neuroscience provides new insights into the mechanisms that underlie a wide range of economic and social phenomena, from risky choice and consumer behavior to altruism and cooperation. It is also a primary example of truly interdisciplinary research, with people from such diverse fields as business administration, economics, engineering, neuroscience, philosophy, physics, and psychology working together to advance knowledge of mechanisms underlying decision making and decision preferences.

The interdisciplinary Ph.D. program in Decision Neuroscience at the Fox School of Business and Management is a collaborative effort with the Department of Psychology in the College of Liberal Arts. Through the efforts of its Center for Neural Decision Making (CNDM), Fox School has been at the forefront of the field of decision neuroscience over the past six years. Similarly, Temple University's Psychology Department has long been a leader in brain and cognitive science research.

Students enrolled in the program gain a thorough understanding of the intellectual issues in the rapidly growing field of decision neuroscience and its subfields of neuroeconomics and neuromarketing. The program has the unique vision of integrating scientific findings with everyday real-world problems. It is designed for students who want to work at the intersection of neuroscience and business.

Time Limit for Degree Completion: 7 years
Campus Location: Main
Full-Time/Part-Time Status: Full-time study is required.
Interdisciplinary Study: The program is inherently interdisciplinary.
Affiliation(s): Research is supported by Fox School of Business and Management’s Advanta Center for Research in Financial Institutions, Center for Healthcare Research and Management, Innovation and Entrepreneurship Institute, and Institute of Global Management Studies. Research interests of the Fox School faculty are also supported by numerous centers and institutes throughout Temple University.
Accreditation: All Fox School of Business and Management graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB International).
Job Prospects: Graduates of the program are prepared to seek tenure-track appointments either in business schools or psychology departments, depending on their approach to the program's curriculum.

Non-Matriculated Student Policy: Non-matriculated students are not permitted to take doctoral courses.

Financing Opportunities: Typically, all Ph.D. students receive financial assistantship in the form of full tuition remission and a stipend in return for offering services as a Research Assistant (RA) or Teaching Assistant (TA). Level of support is based on the concentration, the applicant's qualifications, and competitive considerations. Students can also receive remuneration for conference travel, publications, and academic achievement.

Admission Requirements and Deadlines

Application Deadline:

Fall: January 15

Applications for the Ph.D. program are all processed together after the deadline.

APPLY ONLINE (http://fox.force.com/SiteLogin) to this Fox graduate program at http://fox.force.com/SiteLogin.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators, typically college/university faculty or an immediate work supervisor, who can provide insight into your abilities and talents, as well as comment on your aptitude for graduate study.

Master's Degree in Discipline/Related Discipline: A master's degree is not required.

Bachelor's Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Statement of Goals: Approximately 500 to 1,000 words include your specific interest in Temple's program; your research goals; your future career goals; and your academic and research achievements.

Standardized Test Scores:
GMAT/GRE: Required. GMAT scores are preferred; in some cases, GRE scores may be substituted. In general, scores above the 90th percentile are expected on each portion of the exam.

TOEFL: 105 iBT or 620 PBT minimum

Resume: Current resume required.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 42

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Core Courses</td>
<td></td>
</tr>
</tbody>
</table>

Research Rotations:

In addition to undertaking specially designed interdisciplinary coursework, students complete research rotations during the first year of study that prepare them for independent research in the field of decision neuroscience. Students are required to complete two laboratory rotations in their first year (Fall and Spring) that would ideally be in different subfields with different mentors. Students also have the option to complete a third rotation during the Summer if they require additional exposure.

Research rotations are designed to give students a wide range of knowledge in the area of decision neuroscience by being engaged in the research of an assigned lab. When rotating through a lab (or with a research mentor), students are often paired with a senior lab member (e.g., a postdoctoral fellow or senior graduate student) to work on an ongoing research project. In some cases, they may be given a new project based on their knowledge and skill levels. Students are not, however, expected to complete a full project within an academic term.

1. The select topic for this course is an introduction to research in judgment and decision making and their applications.

2. PSY 8310 Topical Seminar in Cognitive Psychology is taken twice for credit. One course topic provides an introduction to the biological bases of higher brain function, including attention, consciousness, emotion, executive functions, language, memory, and perception. The other provides an overview of the use of functional magnetic resonance imaging (fMRI) in the investigation of human sensory, motor, and cognitive function.

Additional Requirements:

Research Rotations:
Research Meetings:
Students are expected to attend research meetings and to be fully engaged in the research culture.

Publications:
It is expected that students will write, submit, and publish articles.

Grant Proposals:
Students are expected to prepare a grant proposal for submission to a government funding agency. Eligible students are also required to write and submit a National Research Service Award (NRSA) proposal at the end of their third year. International students who are not eligible for federal grants are encouraged to work on submissions with faculty members.

Culminating Events:
Comprehensive Examination:
The comprehensive examination is taken at the end of the second year of study. Each student must propose and defend a major area paper in her/his proposed field of research. Upon passing the exam, students choose a faculty member from either Fox School or the College of Liberal Arts as their primary mentor.

Dissertation:
The doctoral dissertation is an original empirical study that makes a significant contribution to the field. It should expand the existing knowledge and demonstrate the student's knowledge of both research methods and a mastery of her/his primary area of interest. Dissertations should be rigorously investigated; uphold the ethics and standard of the field; demonstrate an understanding of the relationship between the primary area of interest and the broader field of business; and be prepared for publication in an academic journal.

The Doctoral Advisory Committee is formed to oversee the student's doctoral research and is comprised of at least three Graduate Faculty members. Two members, including the Chair, must be from the student's department. The Chair is responsible for overseeing and guiding the student's progress, coordinating the responses of the committee members, and informing the student of her/his academic progress.

The Dissertation Examining Committee evaluates the student's dissertation and oral defense, including the student's ability to express verbally her/his research question, methodological approach, primary findings, and implications. The Dissertation Examining Committee votes to pass or fail the dissertation and the defense at the conclusion of the public presentation. This committee is comprised of the Doctoral Advisory Committee and at least one additional faculty member from outside the department.

If any member decides to withdraw from the committee, the student shall notify the Chair of the Dissertation Examining Committee and the Ph.D. Program Director. The student is responsible for finding a replacement, in consultation with the Chair. Inability to find a replacement shall constitute evidence that the student is unable to complete the dissertation. In such a case, the student may petition the Ph.D. Program Director for a review. Once review of the facts and circumstances is completed, the Director will rule on the student's progress. If the Director rules that the student is not capable of completing the dissertation, s/he will be dismissed from the program. This decision may be appealed to the Senior Associate Dean. If dismissed, the student may appeal to the Graduate School.

Students who are preparing to defend their dissertation should confirm a time and date with their Dissertation Examining Committee and register with the Graduate Secretary at least 15 days before the defense is to be scheduled. The Graduate Secretary arranges the time, date, and room within two working days, and forwards to the student the appropriate forms. After the Graduate Secretary has arranged the time, date, and room for the defense, the student must send to the Graduate School a completed “Announcement of Dissertation Defense” form, found in TUportal under the Tools tab within “University Forms,” at least 10 days before the defense. The department posts flyers announcing the defense, and the Graduate School announces the defense on its website.

Contacts
Program Web Address:
http://www.fox.temple.edu/phd/decision-neuroscience/

Department Information:
Fox School of Business and Management
1801 Liacouras Walk
334-337 Alter Hall (006-22)
Philadelphia, PA 19122
foxphdoffice@temple.edu
215-204-7677
Fax: 215-204-5698

Submission Address for Application Materials:
http://fox.force.com/SiteLogin

Department Contacts:
Associate Director, Doctoral Programs:
Lisa Fitch
A336 Alter Hall
foxphdoffice@temple.edu
215-204-7677

Digital Innovation in Marketing, M.S.

FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program
The M.S. in Digital Innovation in Marketing degree program is intended to provide graduates with the skills and understanding both of the technologies involved and their application in today's complex marketing environment. Students learn the fundamentals of marketing, information systems, brand management, data, user design, and social and content marketing, and how the underlying technology supports the digital marketing function in an organization. Graduates are equipped to integrate marketing strategy with the corporate digital infrastructure and maximize the impact on the business strategy. The program provides the skills needed to:

• Become a leader in driving technology-enabled transformation of the marketing function;
• Develop a digital marketing plan;
• Apply the latest digital innovations such as mobile, location-based services, and big data to marketing campaigns;
• Integrate marketing, advertising, sales, and logistics across physical and digital channels; and
• Collect, analyze, and interpret digital marketing data to inform decision making.

**Time Limit for Degree Completion:** 5 years

**Campus Location:** Online

**Full-Time/Part-Time Status:** The degree program is completed on a part-time basis.

**Affiliation(s):** Research is supported by Fox School of Business and Management’s Advanta Center for Research in Financial Institutions, Center for Healthcare Research and Management, Innovation and Entrepreneurship Institute, and Institute of Global Management Studies. Research interests of the Fox School faculty are also supported by numerous centers and institutes throughout Temple University.

**Accreditation:** All Fox School of Business and Management graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB International).

**Job Prospects:** Graduates of the M.S. in Digital Innovation in Marketing program are prepared for a wide range of careers involving marketing in the digital era.

**Non-Matriculated Student Policy:** All courses require the student to be matriculated in a program.

**Financing Opportunities:** Citizens and permanent residents of the United States are considered domestic students and are typically eligible for federal student loans as well as alternative loans through private lenders. The Fox School grants 5% tuition scholarships to alumni who are admitted to the program. Students are encouraged to pursue scholarship funds from organizations to which they belong, such as athletic organizations, clubs, employers, ethnic groups, fraternal organizations, religious organizations, rotary clubs, unions, veteran groups, and the like.

**Admission Requirements and Deadlines**

**Application Deadline:**

**Fall:**
- December 15 – Early Decision Deadline
- March 1 – Scholarship Deadline and International Deadline
- June 30 – Final Deadline

**Spring:**
- June 30 – Scholarship Deadline and International Deadline
- November 1 – Final Deadline

Applications are reviewed as they are received and can sometimes be considered after the final deadline.

APPLY ONLINE (http://fox.force.com/SiteLogin) to this Fox graduate program at http://fox.force.com/SiteLogin.

**Letters of Reference:**
- Number Required: 1
- From Whom: A professional reference from an immediate supervisor, current or past, is preferred. An academic reference is acceptable.

**Bachelor’s Degree in Discipline/Related Discipline:** A baccalaureate degree is required.

**Statement of Goals:** Describe your future goals in specific terms and how the M.S. will assist you in achieving those goals.

**Standardized Test Scores:**
- GRE/GMAT: Required. Scores for the GRE typically fall within the following percentile ranges: 50 to 99 Verbal; 80 to 99 Quantitative.

  For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:
  - TOEFL: 100 iBT or 600 PBT minimum
  - IELTS: 7.5
  - PTE Academic: 72 minimum

**Resume:** Current resume required.

**Transfer Credit:** Upper-level graduate credits from an AACSB-accredited graduate business program, but not previously applied to a conferred degree, may be transferred into the M.S. program. The credits must be part of the required degree program at Temple University. To be transferred, the grade must be a “B” or better. The Admissions Committee makes recommendations for transferring credits to the department chair. The maximum number of credits a student may transfer is 6.

**Program Requirements**

**General Program Requirements**
- Number of Credits Required Beyond the Baccalaureate: 30

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>MIS 5001</td>
<td>Information Technology Management</td>
<td>3</td>
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<tr>
<td>MIS 5101</td>
<td>Business Intelligence</td>
<td>3</td>
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<tr>
<td>MIS 5102</td>
<td>Process Improvement and Innovation</td>
<td>3</td>
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<td>MIS 5109</td>
<td>User Interface Design</td>
<td>3</td>
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<td>MIS 5603</td>
<td>Social Media Innovation</td>
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<td>MKTG 5604</td>
<td>Digital Marketing</td>
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<tr>
<td>MKTG 5605</td>
<td>Digital Innovation in Product Management and Branding</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 5606</td>
<td>Digital Innovation in Mobile Marketing and Communication</td>
<td>3</td>
</tr>
</tbody>
</table>

**Capstone Course**
- MIS 5651 Digital Innovation in Marketing Capstone 6

**Total Credit Hours**: 30

**Culminating Events:**
- **Capstone Course:**
All students in the Digital Innovation in Marketing M.S. program participate in a capstone experience. Students work in teams to
determine a solution to an opportunity presented by the market. They develop digital tools and strategies to bring their solution to market.

Contacts

Program Web Address:
https://community.mis.temple.edu/program/ms-digital-innovation-in-marketing/

Department Information:
Fox School of Business and Management
1801 Liacouras Walk
701 Alter Hall (006-22)
Philadelphia, PA 19122
foxinfo@temple.edu
215-204-5890
215-204-7678
Fax: 215-204-1632

Submission Address for Application Materials:
http://fox.force.com/SiteLogin

Department Contacts:
Academic Director:
Amy A. Lavin, M.B.A.
amyl@temple.edu
215-204-3196

Specialized Master's Programs Coordinator:
Rachel Carr
Associate Director for Specialized Master’s Programs
foxms@temple.edu
215-204-7678

Finance, M.S.
FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program
Currently open only to students from China, in collaboration with a partner institution in China.

Financial Analysis, M.S.
FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program
Students in the Fox School of Business and Management’s master’s degree program in Financial Analysis (MSFA) build cutting-edge financial skills so they stand out in today’s competitive global economy. The program’s curriculum raises the benchmark for programs supporting the Chartered Financial Analyst® designation. MSFA students may complete CFA® Level I and II exams during the program’s 10- to 22-month time frame.

Time Limit for Degree Completion: 2 years
Schools, Colleges, and Divisions

IELTS: 7.5
PTE Academic: 72 minimum
Resume: Current resume required.

Transfer Credit: Upper-level graduate credits from an AACSB-accredited graduate business program, but not previously applied to a conferred degree, may be transferred into the M.S. program. The credits must be part of the required degree program at Temple University. To be transferred, the grade must be a "B" or better. The Admissions Committee makes recommendations for transferring credits to the department chair. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

<table>
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<tr>
<th>Year 1</th>
<th>Fall</th>
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<tr>
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<td>Finance Academy, August</td>
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<tr>
<td></td>
<td>FIN 5602 Corporate Finance</td>
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<td>FIN 5604 Derivative Markets</td>
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<tr>
<td></td>
<td>FIN 5605 Fixed Income</td>
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<td>Fall Term</td>
<td>FIN 5601 Financial Technology</td>
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<tr>
<td>FIN 5612 Asset Pricing</td>
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<tr>
<td>FIN 5613 Derivative Valuation</td>
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<td>FIN 5618 Corporate Value Management</td>
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<tr>
<td>FIN 5621 Structured Finance</td>
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<tr>
<td>FIN 5623 Risk Measurement</td>
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<tr>
<td>FIN 5627 Financial Econometrics</td>
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<tr>
<td>FIN 5628 Global Economy</td>
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<td>FIN 5671 Financial Analysis I</td>
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<td></td>
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<tr>
<td>FIN 5675 Professional Development</td>
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<tr>
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</table>

Spring

| FIN 5631 Financial Time Series | 1.5 |
| FIN 5632 Investment Management | 1.5 |
| FIN 5637 Applied Corporate Finance | 1.5 |
| FIN 5638 Behavioral Finance | 1.5 |
| FIN 5641 Alternative Investments | 1.5 |
| FIN 5647 Financial Reporting Analysis | 1.5 |
| FIN 5648 Quantitative Portfolios | 1.5 |
| FIN 5672 Financial Analysis II | 1.5 |
| Term Credit Hours | 12 |
| Total Credit Hours: | 30 |

Culminating Event: Successful completion of coursework is required to earn the M.S. in Financial Analysis degree.

Contacts

Program Web Address:
https://www.fox.temple.edu/specialized-masters/financial-analysis/

Department Information:
Fox School of Business and Management
1801 Liacouras Walk
701 Alter Hall (006-22)
Philadelphia, PA 19122
foxinfo@temple.edu
215-204-5890
215-204-7678
Fax: 215-204-1632

 Submission Address for Application Materials:
http://fox.force.com/SiteLogin

Department Contacts:
Academic Director:
John Soss, CFA, FRM
jsoss@temple.edu
215-204-8453

Specialized Master’s Programs Coordinator:
Rachel Carr
Associate Director for Specialized Master’s Programs
foxms@temple.edu
215-204-7678

Financial Analysis and Quantitative Risk Management, M.S.

FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program

The financial analysis of evolving global market opportunities draws on the principles of economics, financial reporting, corporate finance, investments, and quantitative methods. Effective enterprise risk management requires added expertise in complex derivative products and structured capital market transactions. This range of financial expertise drives the sales and trading, investment banking, equity research, credit analysis, quantitative research, asset management, valuation advisory services, and corporate audit and risk management operations of today’s financial services industry. In the same way, the Fox School of Business and Management's master's degree program in Financial Analysis and Quantitative Risk Management (MSFA-QRM) develops a pinnacle breadth and depth of financial expertise. To fuel their career ambitions, MSFA-QRM students may complete the CFA® Level I, II, and III and FRM Part I and II exams over the program’s 22-month time frame.

Time Limit for Degree Completion: 5 years

Campus Location: Main
Full-Time/Part-Time Status: Full-time students are able to complete the MSFA-QRM degree program in 22 months, while part-time students can complete the program in 3 years.

Affiliation(s): Research is supported by Fox School of Business and Management’s Advanta Center for Research in Financial Institutions, Center for Healthcare Research and Management, Innovation and Entrepreneurship Institute, and Institute of Global Management Studies. Research interests of the Fox School faculty are also supported by numerous centers and institutes throughout Temple University.

Accreditation: All Fox School of Business and Management graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB International).

Job Prospects: Graduates have developed specialized skills in the field of finance that distinguish them for employment with accounting firms, commercial banks, consulting companies, financial technology firms, government and regulatory agencies, hedge funds, insurance companies, investment banks, and investment companies.

Non-Matriculated Student Policy: Students are not allowed to take classes under non-matriculated status.

Financing Opportunities: Citizens and permanent residents of the United States are considered domestic students and are typically eligible for federal student loans as well as alternative loans through private lenders. The Fox School grants 5% tuition scholarships to alumni who are admitted to the program. Students are encouraged to pursue scholarship funds from organizations to which they belong, such as athletic organizations, clubs, employers, ethnic groups, fraternal organizations, religious organizations, rotary clubs, unions, veteran groups, and the like.

Admission Requirements and Deadlines

Application Deadline:

Fall:
- December 15 – Early Decision Deadline
- March 1 – Scholarship Deadline and International Deadline
- June 30 – Final Deadline

Spring:
- June 30 – Scholarship Deadline and International Deadline
- November 1 – Final Deadline

Applications are reviewed as they are received and can sometimes be considered after the deadline.

APPLY ONLINE (http://fox.force.com/SiteLogin) to this Fox graduate program at http://fox.force.com/SiteLogin.

Letters of Reference:
Number Required: 2

From Whom: Professional references from an immediate supervisor, current or past, are preferred. Academic references are acceptable.

Coursework Required for Admission Consideration: Applicants are expected to have earned grades of at least a "B" in each of their college-level calculus courses.

Bachelor’s Degree in Discipline/Related Discipline: A baccalaureate degree is required.

Statement of Goals: Describe your future goals in specific terms and how the M.S. will assist you in achieving those goals.

Standardized Test Scores:
GRE/GMAT: Required. Scores for the GRE typically fall within the following percentile ranges: 50 to 99 Verbal; 80 to 99 Quantitative.

For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:
TOEFL: 100 iBT or 600 PBT minimum
IELTS: 7.5
PTE Academic: 72 minimum
Resume: Current resume required.

Transfer Credit: Upper-level graduate credits from an AACSB-accredited graduate business program, but not previously applied to a conferred degree, may be transferred into the M.S. program. The credits must be part of the required degree program at Temple University. To be transferred, the grade must be a "B" or better. The Admissions Committee makes recommendations for transferring credits to the department chair. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 43

<table>
<thead>
<tr>
<th>Year 1 Courses</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td></td>
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<tr>
<td>Finance Academy, August</td>
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<tr>
<td>FIN 5602 Corporate Finance</td>
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<tr>
<td>FIN 5604 Derivative Markets</td>
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<td>FIN 5605 Fixed Income</td>
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<tr>
<td><strong>Fall Term</strong></td>
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<tr>
<td>FIN 5601 Financial Technology</td>
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<tr>
<td>FIN 5612 Asset Pricing</td>
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<td>FIN 5618 Corporate Value Management</td>
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<td>FIN 5621 Structured Finance</td>
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<td>FIN 5628 Global Economy</td>
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<tr>
<td>FIN 5671 Financial Analysis I</td>
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<tr>
<td>FIN 5675 Professional Development</td>
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<td><strong>Term Credit Hours</strong></td>
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<tr>
<td><strong>Spring</strong></td>
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<tr>
<td>FIN 5632 Investment Management</td>
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<tr>
<td>FIN 5637 Applied Corporate Finance</td>
<td>1.5</td>
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<tr>
<td>FIN 5638 Behavioral Finance</td>
<td>1.5</td>
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<tr>
<td>FIN 5647 Financial Reporting Analysis</td>
<td>1.5</td>
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<tr>
<td>FIN 5648 Quantitative Portfolios</td>
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</table>
FIN 5672  Financial Analysis II  1.5

Year 2
Fall
Finance Academy, August
FIN 5607  Stochastic Calculus Finance  1
FIN 5601  Financial Technology  0.5
FIN 5614  Continuous Time Finance  1.5
FIN 5619  Quant Fixed Income  1.5
FIN 5624  Numerical Methods  1.5
FIN 5629  Value at Risk  1.5
FIN 5673  Financial Risk Management I  1.5

Term Credit Hours  9

Spring
FIN 5631  Financial Time Series  1.5
FIN 5634  Stochastic Volatility  1.5
FIN 5639  Quantitative Risk Modeling  1.5
FIN 5641  Alternative Investments  1.5
FIN 5643  Structured Products  1.5
FIN 5649  Enterprise Risk Management  1.5
FIN 5674  Financial Risk Management II  1.5

Term Credit Hours  10.5

Total Credit Hours:  43

Culminating Event: Successful completion of coursework is required to earn the MSFA-QRM degree.

Contacts
Program Web Address:

Department Information:
Fox School of Business and Management
1801 Liacouras Walk
701 Alter Hall (006-22)
Philadelphia, PA 19122
foxinfo@temple.edu
215-204-5890
215-204-7678
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John Soss, CFA, FRM
jsoss@temple.edu
215-204-8453

Specialized Master’s Programs Coordinator:
Rachel Carr

Associate Director for Specialized Master's Programs
foxms@temple.edu
215-204-7678

Global Finance, D.S.
FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program
Currently open only to students in China, in collaboration with Tsinghua University.

Health Administration, M.H.A.
FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program
The M.H.A. in Health Administration is designed for part-time study by healthcare professionals with substantive work experience in healthcare and healthcare-related fields. The program is ideal for:

• Mid-level health sector managers who are highly experienced in their functional roles and require a graduate education in order to advance;
• Physicians and nurse managers who possess the potential to become clinical leaders, but lack formal management training;
• Consultants who need healthcare-specific industry knowledge; and
• Healthcare professionals identified by their senior managers as up-and-comers having the potential to develop into leadership roles.

Time Limit for Degree Completion: 5 years

Campus Location: Main, Center City, Online

Full-Time/Part-Time Status: The degree program is designed to be completed on a part-time basis.

Affiliation(s): Research is supported by Fox School of Business and Management’s Advanta Center for Research in Financial Institutions, Innovation and Entrepreneurship Institute, and Institute of Global Management Studies. Research interests of the Fox School faculty are also supported by numerous centers and institutes throughout Temple University.

Accreditation: All Fox School of Business and Management graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB International).

Job Prospects: M.H.A. students are typically full-time working professionals seeking to enhance and expand their management skills to improve performance in their existing jobs. Some seek to move from clinical to more administrative responsibilities.

Non-Matriculated Student Policy: Students with an undergraduate GPA of 3.0 or higher may be allowed to take classes under non-matriculated status. Non-matriculated students may take a maximum of 9 credits. Any additional courses require the student to be matriculated in a program.

Financing Opportunities: Citizens and permanent residents of the United States are considered domestic students and are typically eligible for federal student loans as well as alternative loans through
private lenders. The Fox School grants 5% tuition scholarships to alumni who are admitted to the program. Students are encouraged to pursue scholarship funds from organizations to which they belong, such as athletic organizations, clubs, employers, ethnic groups, fraternal organizations, religious organizations, rotary clubs, unions, veteran groups, and the like.

**Admission Requirements and Deadlines**

**Application Deadline:**
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Applications are reviewed as they are received and can sometimes be considered after the deadline.

APPLY ONLINE (http://fox.force.com/SiteLogin) to this Fox graduate program at http://fox.force.com/SiteLogin.

**Letters of Reference:**
- **Number Required:** 2
- **From Whom:** Professional references from an immediate supervisor, current or past, are preferred. Academic references are acceptable.

**Bachelor’s Degree in Discipline/Related Discipline:** A baccalaureate degree is required.

**Statement of Goals:** Describe your future goals in specific terms and how the M.S. will assist you in achieving those goals.

**Standardized Test Scores:**
GREF/GMAT: Required. Scores for the GRE typically fall within the following percentile ranges: 50 to 99 Verbal; 80 to 99 Quantitative.

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- PTE Academic: 72 minimum

**Resume:** Current resume required.

**Transfer Credit:** Upper-level graduate credits from an AACSB-accredited graduate business program, but not previously applied to a conferred degree, may be transferred into the M.S. program. The credits must be part of the required degree program at Temple University. To be transferred, the grade must be a “B” or better. The Admissions Committee makes recommendations for transferring credits to the department chair. The maximum number of credits a student may transfer is 6.

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**Program Requirements**

**General Program Requirements:**

**Number of Credits Required Beyond the Baccalaureate: 33**

<table>
<thead>
<tr>
<th>Code</th>
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<td>ACCT 5001</td>
<td>Accounting for Managerial and Investment Analysis and Planning</td>
<td>3</td>
</tr>
<tr>
<td>BA 5687</td>
<td>MS Advanced Professional Development Strategies ¹</td>
<td>0</td>
</tr>
<tr>
<td>HCM 5101</td>
<td>Health Systems Organization and Development</td>
<td>3</td>
</tr>
<tr>
<td>HCM 5102</td>
<td>Healthcare Organizational Leadership and Strategy</td>
<td>3</td>
</tr>
<tr>
<td>HCM 5103</td>
<td>Financial Management of Healthcare Organizations</td>
<td>3</td>
</tr>
<tr>
<td>HCM 5106</td>
<td>Advanced Hlth Econ &amp; Fin</td>
<td>3</td>
</tr>
<tr>
<td>HRM 5054</td>
<td>Leadership Development</td>
<td>3</td>
</tr>
<tr>
<td>LGLS 5701</td>
<td>Legal and Ethical Foundations of Business</td>
<td>3</td>
</tr>
<tr>
<td>RMI 5051</td>
<td>Managing Risk</td>
<td>3</td>
</tr>
<tr>
<td>RMI 5103</td>
<td>Health Risks</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
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<td>9</td>
</tr>
</tbody>
</table>

Total Credit Hours 33

¹ BA 5687 may be waived based on prior academic or professional preparation. Consult with the Academic Director.

² To support student learning based on various interests and career needs, elective courses have been grouped to allow students to focus on a specific subject area. Students can select a group of electives to study more deeply in a particular subject area or they can choose any three electives.

**Approved Electives Grouped by Subject Area**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT 5001</td>
<td>Quantitative Methods for Business</td>
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<tr>
<td>STAT 5602</td>
<td>Visualization: The Art of Numbers and the Psychology of Persuasion</td>
<td></td>
</tr>
<tr>
<td>STAT 5603</td>
<td>Statistical Learning and Data Mining ¹</td>
<td></td>
</tr>
</tbody>
</table>

**Health**

- EPBI 5002 | Biostatistics
- EPBI 5101 | Fundamentals of Epidemiology
- HIM 5106  | Technology for Population Health

**Human Resource Management**

- HCM 5182 | Independent Study
- HRM 5051 | Human Resources Management Strategies
- HRM 5112 | Leading High Performing Teams
- HRM 5113 | Power, Influence, and Negotiation in Organizations

**Project Management**

- MSOM 5001 | Operations Management ¹
- MSOM 5107 | Lean, Six Sigma, and the Science of Improvement
- MSOM 5108 | Project Management
Strategy - Consulting
BA 5287 Enterprise Management Consulting Practicum
SGM 5133 Management Consulting: Principles and Practices
SGM 5134 Engagement Management

Strategy - General
BA 5287 Enterprise Management Consulting Practicum
SGM 5051 Business Strategy in a Global Environment
SGM 5136 Principles of Strategy and Management

Strategy - Innovation/Problem Solving
SGM 5103 Management of Technology and Innovation
SGM 5142 Business Model Innovation
SGM 5144 Creativity Unleashed: Harnessing Creativity to Solve Real-World Innovation Challenges

Miscellaneous
MIS 5001 Information Technology Management
MKTG 5001 Marketing Management/Strategy
SCM 5602 Global Supply Chain Management
Other elective(s) approved by Academic Director

1 STAT 5001 must be taken first as it is a required prerequisite.
2 Students electing BA 5287 must enroll in a section with a healthcare project or the elective does not apply to the M.H.A.
3 MSOM 5001 must be taken first as it is a required prerequisite.

Culminating Events: Successful completion of coursework is required to earn the M.H.A. degree.

Contacts
Program Web Address: 
https://www.fox.temple.edu/specialized-masters/master-of-health-administration/

Department Information:
Fox School of Business and Management
701 Alter Hall (006-22)
1801 Liacouras Walk
Philadelphia, PA 19122-6083
foxinfo@temple.edu
215-204-5890
215-204-7678
Fax: 215-204-1632

Submission Address for Application Materials: 
http://fox.force.com/SiteLogin

Department Contacts:
Academic Director:
Carla Jackie Sampson
carla.sampson@temple.edu
215-204-7293

Specialized Master’s Programs Coordinator:
Rachel Carr
Associate Director for Specialized Master’s Programs
foxms@temple.edu

215-204-7678

Healthcare Financial Management, M.S.
FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program
This program is not accepting applications for the 2018-2019 academic year.

Human Resource Management, M.S.
FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program
The Fox School of Business and Management offers the M.S. in Human Resource Management (MSHRM) degree program for the individual who wants to pursue a career in Human Resource Management (HRM). The curriculum equips rising professionals with knowledge of advanced practices in critical HRM areas and an understanding of how those practices affect organizational success. It is certified to industry standards set by the Society for Human Resource Management (SHRM). The Fox MSHRM program is offered completely online and is intended to accommodate our students’ busy schedules. With the accelerated completion pathway, students can earn their degrees in as few as 13 months.

Time Limit for Degree Completion: 6 years

Campus Location: Online. Each course is delivered online over a five-week term. Each week, students participate in a live and collaborative web-conferencing session with faculty and classmates. Additional coursework and activities are required throughout the period.

Full-Time/Part-Time Status: The MSHRM is flexible and can accommodate both full-time and part-time students.

Affiliation(s): Research is supported by Fox School of Business and Management’s Advanta Center for Research in Financial Institutions, Center for Healthcare Research and Management, Innovation and Entrepreneurship Institute, and Institute of Global Management Studies. Research interests of the Fox School faculty are also supported by numerous centers and institutes throughout Temple University.

Accreditation: All Fox School of Business and Management graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB International).

Job Prospects: Graduates can expect to be qualified for such positions as:

- HR Business Partner
- HRM Strategic Leader
- Professional Development/E-Learning Manager/Director
- Program Director
- Senior Analyst
• Senior Talent Management or Organization Development Consultant
• Talent Acquisition Manager/Director
• Total Rewards Manager/Director

Non-Matriculated Student Policy: Students with an undergraduate GPA of 3.0 or higher and a minimum of three years of relevant work experience may be allowed to take classes under non-matriculated status. Non-matriculated students may take a maximum of 9 credits. Any additional courses require the student to be matriculated in a program.

Financing Opportunities: Citizens and permanent residents of the United States are considered domestic students and are typically eligible for federal student loans as well as alternative loans through private lenders. The Fox School grants 5% tuition scholarships to alumni who are admitted to the program. Employers may provide tuition reimbursement as part of their benefit packages. Students are further encouraged to pursue scholarship funds from organizations to which they belong, such as athletic organizations, clubs, employers, ethnic groups, fraternal organizations, religious organizations, rotary clubs, unions, veteran groups, and the like.

Admission Requirements and Deadlines

Application Deadline:

Fall:
• December 15 – Early Decision Deadline
• March 1 – Scholarship Deadline and International Deadline
• June 30 – Final Deadline

Spring:
• June 30 – Scholarship Deadline and International Deadline
• November 1 – Final Deadline

Applications are reviewed as they are received and can sometimes be considered after the deadline.

APPLY ONLINE (http://fox.force.com/SiteLogin) to this Fox graduate program at http://fox.force.com/SiteLogin.

Letters of Reference:

Number Required: 2

From Whom: At least one letter should be provided by a professional reference, preferably a current or former manager. If a second professional reference is not available, a recommendation from a college/university faculty member familiar with the applicant’s academic competence is acceptable.

Professional Work Experience: A minimum of three years of professional leadership or Human Resource Management experience is required to apply.

Bachelor’s Degree in Discipline/Related Discipline: A baccalaureate degree, not necessarily in a business discipline, is required with a minimum GPA of 3.0 on a 4.0 scale.

Statement of Goals: The MSHRM application requires one essay that discusses the applicant’s professional plans and goals. The following questions must be addressed:

What past experiences prepared or motivated you to pursue the MSHRM degree?
What personal and professional values and skills do you hope to acquire through the academic content?
How will obtaining the MSHRM help you achieve your career goals?

Standardized Test Scores:
GRE/GMAT: Required.
For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:

TOEFL: 100 iBT or 600 PBT minimum
IELTS: 7.5
PTE Academic: 72 minimum

Resume: Current resume required.

Interview: A personal interview, which is conducted either virtually or in person, is required.

Transfer Credit: Upper-level graduate credits from an AACSB-accredited graduate business program, but not previously applied to a conferred degree, may be transferred into the MSHRM program. The credits must be part of the required degree program at Temple University. To be transferred, the grade must be a “B” or better. The Admissions Committee makes recommendations for transferring credits to the department chair. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
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<th>Credit Hours</th>
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<td>HRM 5051</td>
<td>Human Resources Management Strategies</td>
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<tr>
<td>HRM 5115</td>
<td>Talent Acquisition</td>
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<tr>
<td>HRM 5116</td>
<td>Strategic Reward Systems</td>
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<td>HRM 5117</td>
<td>Public Policy and Compliance</td>
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<td>HRM 5402</td>
<td>Ethical Management</td>
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<td>HRM 5404</td>
<td>Leading in Complex Organizations</td>
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<td>Electives</td>
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Select four from the following:

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>HRM 5112</td>
<td>Leading High Performing Teams</td>
</tr>
<tr>
<td>HRM 5113</td>
<td>Power, Influence, and Negotiation in Organizations</td>
</tr>
<tr>
<td>HRM 5114</td>
<td>Building Human Capital for High Performance Organizations</td>
</tr>
<tr>
<td>HRM 5118</td>
<td>Business Transformation through Big Data</td>
</tr>
<tr>
<td>HRM 5119</td>
<td>Human Resource Consulting</td>
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</table>

Capstone Course

<table>
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<tr>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>HRM 5125</td>
<td>Strategic Challenges in Human Resources</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours 30

Culminating Events: Successful completion of coursework is required to earn the MSHRM degree.
Contacts

Program Web Address:

Department Information:
Fox School of Business and Management
1801 Liacouras Walk
701 Alter Hall (006-22)
Philadelphia, PA 19122
foxinfo@temple.edu
215-204-5890
215-204-7678
Fax: 215-204-1632

Submission Address for Application Materials:
http://fox.force.com/SiteLogin

Department Contacts:
Academic Director:
Kelly Grace, J.D., Ph.D.
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215-204-8099

Specialized Master's Programs Coordinator:
Rachel Carr
Associate Director for Specialized Master's Programs
foxms@temple.edu
215-204-7678

Information Technology Auditing and Cyber Security, M.S.
FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program
The M.S. in Information Technology Auditing and Cyber Security (MS ITACS) program prepares students for cyber security, information security, information systems auditing, and IT risk management positions in business and critical infrastructure sectors (https://www.dhs.gov/critical-infrastructure-sectors) of the economy identified by the U.S. Department of Homeland Security. The MS ITACS is a science, technology, engineering, and math (STEM) program aligned with the ISACA® Model Curriculum (https://www.isaca.org/knowledge-center/academia/pages/programs-aligned-with-model-curriculum-for-is-audit-and-control.aspx) for Information System Audit and Control, which enables our graduates to earn one year of work experience applicable toward the Certified Information Systems Auditor (CISA (http://www.isaca.org/Certification/CISA-Certified-Information-Systems-Auditor/Pages/default.aspx)) designation.

MS ITACS students take four common core courses and specialized courses in one of two concentrations: Information Technology Auditing or Cyber Security. The IT Auditing concentration culminates in a capstone course leading to CISA (http://www.isaca.org/Certification/CISA-Certified-Information-Systems-Auditor/Pages/default.aspx) certification, while the capstone course for the Cyber Security concentration leads to Certified Information Systems Security Professional (CISSP® (https://www.isc2.org/Certifications/CISSP)) certification, depending on the student's work experience. Qualified students with necessary prerequisites are able to take courses from both concentrations.

Time Limit for Degree Completion: 5 years

Campus Location: Main and/or Online

Full-Time/Part-Time Status: The MS ITACS program can be completed on a full- or part-time basis.

Affiliation(s): Research is supported by Fox School of Business and Management's Advanta Center for Research in Financial Institutions, Center for Healthcare Research and Management, Innovation and Entrepreneurship Institute, and Institute of Global Management Studies. Research interests of the Fox School faculty are also supported by numerous centers and institutes throughout Temple University.

Accreditation: All Fox School of Business and Management graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB International).

Areas of Specialization: Two areas of concentration are offered:
- Cyber Security
- Information Technology Auditing

Job Prospects: The MS ITACS degree prepares graduates for employment in cyber security, information security, information systems auditing, and IT risk management positions at accounting and consulting firms, banks and financial companies, businesses producing goods and providing services, computer software and hardware companies, information and data service providers, and governmental agencies and non-governmental organizations. The U.S. Bureau of Labor Statistics reports 28% job growth through 2026.

Non-Matriculated Student Policy: Students with an undergraduate GPA of 3.0 or higher may be allowed to take classes under non-matriculated status in the ITACS graduate certificate program. Non-matriculated students may take a maximum of 9 credits. Any additional courses require the student to be matriculated in a program.

Financing Opportunities: Citizens and permanent residents of the United States are considered domestic students and are typically eligible for federal student loans as well as alternative loans through private lenders. The Fox School grants 5% tuition scholarships to alumni who are admitted to the program. Students are encouraged to pursue scholarship funds from organizations to which they belong, such as athletic organizations, clubs, employers, ethnic groups, fraternal organizations, religious organizations, rotary clubs, unions, veteran groups, and the like.

Admission Requirements and Deadlines

Application Deadline:

Fall:
- December 15 – Early Decision Deadline
- March 1 – Scholarship Deadline and International Deadline
- June 30 – Final Deadline
Spring:
• June 30 – Scholarship Deadline and International Deadline
• November 1 – Final Deadline

Applications are reviewed as they are received and can sometimes be considered after the deadline.

APPLY ONLINE (http://fox.force.com/SiteLogin) to this Fox graduate program at http://fox.force.com/SiteLogin.

Letters of Reference:
Number Required: 2

From Whom: Professional references from an immediate supervisor, current or past, are preferred. Academic references are acceptable.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree is required.

Statement of Goals: Describe your future goals in specific terms and how the M.S. will assist you in achieving those goals.

Standardized Test Scores:
GRE/GMAT: Required. Scores for the GRE typically fall within the following percentile ranges: 50 to 99 Verbal; 80 to 99 Quantitative.

For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:

TOEFL: 100 iBT or 600 PBT minimum

IELTS: 7.5

PTE Academic: 72 minimum

Resume: Current resume required.

Transfer Credit: Upper-level graduate credits from an AACSB-accredited graduate business program, but not previously applied to a conferred degree, may be transferred into the M.S. program. The credits must be part of the required degree program at Temple University. To be transferred, the grade must be a "B" or better. The Admissions Committee makes recommendations for transferring credits to the department chair. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

Information Technology Auditing Concentration

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIS 5202</td>
<td>IT Governance</td>
<td>3</td>
</tr>
<tr>
<td>MIS 5206</td>
<td>Protection of Information Assets</td>
<td>3</td>
</tr>
<tr>
<td>MIS 5214</td>
<td>Security Architecture</td>
<td>3</td>
</tr>
<tr>
<td>MIS 5287</td>
<td>Business Skills for ITACS Professionals (2 terms)</td>
<td>3</td>
</tr>
</tbody>
</table>

IT Auditing Elective Courses

Select two from the following: 6

- MIS 5121 Enterprise Resource Planning Systems
- MIS 5170 Special Topics
- MIS 5182 Independent Study
- MIS 5208 Data Analytics for IT Auditors

IT Auditing Capstone Course

MIS 5902 IT Auditing Capstone

Total Credit Hours: 30

1. MIS 5122 Enterprise Architecture for IT Auditors (3 s.h.) may be required of students who are admitted to the program but lack sufficient technical background.

2. Students in the Information Technology Auditing concentration may select up to two elective courses in the Cyber Security concentration, Computer Science, or Engineering Security. This is done in consultation with the ITACS Program Director.

Cyber Security Concentration

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIS 5202</td>
<td>IT Governance</td>
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<tr>
<td>MIS 5206</td>
<td>Protection of Information Assets</td>
<td>3</td>
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<tr>
<td>MIS 5214</td>
<td>Security Architecture</td>
<td>3</td>
</tr>
<tr>
<td>MIS 5287</td>
<td>Business Skills for ITACS Professionals (2 terms)</td>
<td>3</td>
</tr>
</tbody>
</table>

Cyber Security Concentration Courses

Select one from the following: 3

- MIS 5170 Special Topics
- MIS 5182 Independent Study
- MIS 5212 Penetration Testing
- MIS 5216 Organizational Forensics

Cyber Security Capstone Course

MIS 5903 Cyber Security Capstone

Total Credit Hours: 30

1. Students in the Cyber Security concentration may select an elective course in the Information Technology Auditing concentration, Computer Science, or Engineering Security. This is done in consultation with the ITACS Program Director.

Culminating Events:
The MS ITACS program culminates in a capstone that prepares students to take the appropriate professional certification examination:

- Certified Information Systems Auditor (CISA)
• Certified Information Systems Security Professional (CISSP®), with a minimum of five years’ experience

Contacts

Program Web Address:
http://www.fox.temple.edu/specialized-masters/it-auditing-and-cybersecurity/

Department Information:
Fox School of Business and Management
1801 Liacouras Walk
701 Alter Hall (006-22)
Philadelphia, PA 19122
foxinfo@temple.edu
215-204-5890
215-204-7678
Fax: 215-204-1632

Submission Address for Application Materials:
http://fox.force.com/SiteLogin

Department Contacts:

ITACS Academic Director:
David Lanter, Ph.D., CISA, GISIP
david.lanter@temple.edu
215-204-3077

Specialized Master’s Programs Coordinator:
Rachel Carr
Associate Director for Specialized Master’s Programs
foxms@temple.edu
215-204-7678

Innovation Management and Entrepreneurship, M.S.

FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program

Innovation and entrepreneurship are ubiquitous in today’s modern competitive landscape. Firms that sit still are left behind as new leaders or indeed the entire industry surges ahead. For firms to survive, they must invent groundbreaking new products; think outside the box in order to deliver services with unparalleled value; fundamentally rework their internal activities and processes to create competitive advantage; and reinvent the game by diving into so-called “Blue Oceans” and “White Spaces” with novel business models. As open innovation perspectives come to be fully embraced by organizations, entire business ecosystems are fundamentally shifting and competition becomes value-chain against value-chain, not company against company.

In this rapidly changing landscape, it is critical that employees and managers alike understand how to overcome both the strategic and tactical challenges of organizational innovation. The Master of Science in Innovation Management and Entrepreneurship (IME MS) program teaches how to overcome these challenges to take advantage of new opportunities relevant to a company or industry. It is designed to help students shift their perspectives so they develop a deep understanding of strategy, innovation, creativity, and entrepreneurship, as well as develop relevant management skills necessary to more effectively manage innovation in existing companies and/or to more successfully found new entrepreneurial ventures.

The IME MS is designed for:

• Entrepreneurs aiming to create high-growth, innovative, or technology-focused companies or social-impact organizations.
• Working professionals (junior, mid-level, and top leadership) in companies that have prioritized innovation or recognized the need for fundamentally different management paradigms to deal with the modern competitive landscape.
• Working professionals (junior, mid-level, and top leadership) in research and development, technology, innovation, or change management roles.
• M.B.A. dual-degree students who have recognized the important ways that innovative perspectives complement more traditional management approaches.
• Recent graduates from engineering, science and technology, medical, dental, and pharmacy schools, particularly those who want to work in technology or R&D-focused companies.
• Graduate students and faculty in engineering, science and technology, medical, dental, and pharmacy programs who want to develop complementary perspectives in innovation and entrepreneurship.
• Design, architecture, and art students interested in the business side of creativity as creatives in the enterprise or as entrepreneurs/ freelancers and/or interested in applying design thinking to innovation in firms.

Time Limit for Degree Completion: 3 years

Campus Location: Center City, Online

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis. Scheduling is flexible as most courses are offered online, over weekends, and/or in the evening. Full-time study is typically completed in one year, while part-time study can be spread over two years. The program can be completed fully online within one year.

Interdisciplinary Study: This uniquely collaborative program includes business professionals, scientists, engineers, artists, designers, lawyers, and such. Courses are taken by Fox Professional/Global/Online M.B.A., Engineering Management M.S., and Bioinnovation M.S. students and are offered as electives for graduate students across Temple.

Areas of Specialization: Three concentrations, designed for maximum flexibility with 9 to 12 credits of electives so students can emphasize areas of interest, are offered jointly by Fox School of Business and Management and the College of Engineering:

• Entrepreneurship
• Innovation Strategy
• Technology and Innovation Management

Job Prospects: Graduates are prepared for employment in a variety of areas, including:

• Consulting
• Corporate New Venture Divisions
• Entrepreneurial Ecosystem
• Innovation Strategy Groups
• Leadership/Management
• New Product Development
• Open Innovation
• Technical Sales/Marketing
• Technology Commercialization

They also have the skills needed for these positions:

• Evangelist/Change Leader
• Founder/Entrepreneur
• Idea Management Specialist
• Innovation Project Manager
• Knowledge Management Professional
• R&D Manager/Team Leader
• Technology Portfolio Manager
• Any position in entrepreneurial startups

**Licensure:** Coursework prepares students to take the New Product Development Professional (NPDP) certification exam offered by the Product Development Management Association (PDMA). In addition, students have the option to take courses to receive a certification as a Lean Six Sigma Green Belt by the International Association for Six Sigma Certification (IASSC).

**Non-Matriculated Student Policy:** Students with an undergraduate GPA of 3.0 or higher are able to take individual strategic management, innovation, and entrepreneurship courses as non-matriculated students. Non-matriculated students may take a maximum of 9 credits before applying for a degree program. We generally recommend that students interested in taking our graduate courses consider one of our graduate certificate programs since they are given priority in selecting courses over non-matriculated students.

**Financing Opportunities:** Scholarships are available and are automatically awarded based on application strength.

### Admission Requirements and Deadlines

**Application Deadline:**

**Fall:**

• December 15 – Early Decision Deadline
• March 1 – Scholarship Deadline and International Deadline
• June 30 – Final Deadline

**Spring:**

• June 30 – Scholarship Deadline and International Deadline
• November 1 – Final Deadline

Applicants who have not assembled their complete application for the IME MS program in time for an upcoming application deadline are encouraged to apply to one of our certificate programs. Credits taken in our Entrepreneurship and Technology Commercialization graduate certificate (https://www.fox.temple.edu/graduate-certificates/certificates/graduate-certificate-in-entrepreneurship-technology-commercialization) and Innovation Strategy graduate certificate (http://www.fox.temple.edu/cms_academics/graduate-certificates/certificates/graduate-certificate-in-innovation-strategy) programs can be transferred to the IME MS.

Applications are reviewed as they are received and can sometimes be considered after the deadline.

**APPLY ONLINE** (http://fox.force.com/SiteLogin) to this Fox graduate program at http://fox.force.com/SiteLogin.

**Letters of Reference:**

**Number Required:** 2

**From Whom:** Letters of recommendation should be obtained from college/university faculty members familiar with academic competence and/or professional references (employers) who know the applicant well and can attest to her/his leadership ability.

**Bachelor’s Degree in Discipline/Related Discipline:** A baccalaureate degree is required.

**Statement of Goals:** Two essays are required, including a statement of goals and an essay on leadership. An additional statement is optional.

**Standardized Test Scores:**

- **GMAT/GRE:** Required.
- **TOEFL:** 100 iBT or 600 PBT minimum. Applicants may substitute the IELTS for the TOEFL with a comparable minimum score of 7.5.

**Test Waivers:** GMAT scores are typically waived for professionals with more than 10 years of work experience, as well as for faculty members or students from STEM undergraduate programs with a 3.0 or higher GPA. Requests for a GMAT waiver must be sent via email.

**Resume:** Current resume required.

**Interview:** A personal interview is conducted by invitation only, after an application has been submitted and reviewed.

### Program Requirements

**General Program Requirements:**

- **Number of Credits Required Beyond the Baccalaureate:** 30

**Required Courses:**

#### Entrepreneurship Concentration

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<tr>
<th>Code</th>
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<tr>
<td>BA 5687</td>
<td>MS Advanced Professional Development Strategies ¹</td>
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<tr>
<td>SGM 5137</td>
<td>Entrepreneurial Thinking and New Venture Creation</td>
<td>3</td>
</tr>
<tr>
<td>SGM 5139</td>
<td>Lean Entrepreneurship / Innovation: Fast &amp; Frugal Methods to Launch Startups &amp; Test Innovative Ideas</td>
<td>3</td>
</tr>
<tr>
<td>SGM 5142</td>
<td>Business Model Innovation</td>
<td>3</td>
</tr>
<tr>
<td>SGM 5144</td>
<td>Creativity Unleashed: Harnessing Creativity to Solve Real-World Innovation Challenges</td>
<td>3</td>
</tr>
<tr>
<td>SGM 5145</td>
<td>Plan, Pitch, and Fund an Entrepreneurial Start-Up</td>
<td>3</td>
</tr>
</tbody>
</table>
## Innovation Strategy Concentration

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td></td>
<td><strong>Core Courses</strong></td>
<td></td>
</tr>
<tr>
<td>BA 5687</td>
<td>MS Advanced Professional Development Strategies ¹</td>
<td>0</td>
</tr>
<tr>
<td>SGM 5135</td>
<td>Innovation Intelligence: Plan, Build, Protect, and Monetize a Technology / Innovation Portfolio</td>
<td>3</td>
</tr>
<tr>
<td>SGM 5138</td>
<td>Global Innovation Strategy: Creating Agile, Innovative, Globally-Competitive Organizations</td>
<td>3</td>
</tr>
<tr>
<td>SGM 5142</td>
<td>Business Model Innovation</td>
<td>3</td>
</tr>
<tr>
<td>SGM 5144</td>
<td>Creativity Unleashed: Harnessing Creativity to Solve Real-World Innovation Challenges</td>
<td>3</td>
</tr>
<tr>
<td>SGM 5148</td>
<td>Open Innovation and Managing Strategic Alliances</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Electives</strong></td>
<td>15</td>
</tr>
<tr>
<td></td>
<td><strong>Total Credit Hours</strong></td>
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</tbody>
</table>

¹ May be waived based on prior academic or professional preparation. Consult with the program's Academic Director.

## Technology and Innovation Management Concentration

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td></td>
<td><strong>Core Courses</strong></td>
<td></td>
</tr>
<tr>
<td>BA 5687</td>
<td>MS Advanced Professional Development Strategies ¹</td>
<td>0</td>
</tr>
<tr>
<td>SGM 5103</td>
<td>Management of Technology and Innovation</td>
<td>3</td>
</tr>
<tr>
<td>SGM 5135</td>
<td>Innovation Intelligence: Plan, Build, Protect, and Monetize a Technology / Innovation Portfolio</td>
<td>3</td>
</tr>
<tr>
<td>SGM 5139</td>
<td>Lean Entrepreneurship / Innovation: Fast &amp; Frugal Methods to Launch Startups &amp; Test Innovative Ideas</td>
<td>3</td>
</tr>
<tr>
<td>SGM 5142</td>
<td>Business Model Innovation</td>
<td>3</td>
</tr>
<tr>
<td>SGM 5144</td>
<td>Creativity Unleashed: Harnessing Creativity to Solve Real-World Innovation Challenges</td>
<td>3</td>
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<tr>
<td></td>
<td><strong>Electives</strong></td>
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<td><strong>Total Credit Hours</strong></td>
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¹ May be waived based on prior academic or professional preparation. Consult with the program's Academic Director.

## Non-Concentration Option

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td></td>
<td><strong>Core Courses</strong></td>
<td></td>
</tr>
<tr>
<td>BA 5687</td>
<td>MS Advanced Professional Development Strategies ¹</td>
<td>0</td>
</tr>
<tr>
<td>SGM 5142</td>
<td>Business Model Innovation</td>
<td>3</td>
</tr>
</tbody>
</table>

¹ May be waived based on prior academic or professional preparation. Consult with the program's Academic Director.

## Culminating Events
Successful completion of coursework is required to earn the IME MS degree.

## Contacts

### Program Web Address:
http://www.fox.temple.edu/specialized-masters/innovation-management-entrepreneurship/

### Department Information:
Innovation & Entrepreneurship Institute (IEI)

### Submission Address for Application Materials:
http://fox.force.com/SiteLogin

### Department Contacts:

**Information About Co-curricular and Academic Programs:**
Erin McShea
Associate Director of Student Engagement
erin.mcshea@temple.edu
215-204-4156

**Course Registration:**
Rachel Carr
Associate Director for Specialized Master's Programs
foxms@temple.edu
215-204-7678

**Academic Director:**
Robert C. McNamee, Ph.D.
IEI Managing Director
robert.mcnamee@temple.edu
Management Information Systems, M.S.

FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program

This program is not accepting applications for the 2018-2019 academic year.

Marketing, M.S.

FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program

The M.S. in Marketing prepares graduates to produce actionable insights and analyses using quantitative, qualitative, and strategic information about customers, the company, and competitors. Graduates are prepared to assume responsibility for a market, brand, or product line; to enter marketing management; or to conduct marketing research and analytics. The M.S. in Marketing is designed to allow students to acquire advanced skills and techniques that can be applied to solve complex strategic and tactical problems relating to customers and competition.

Time Limit for Degree Completion: 6 years

Campus Location: Center City, Online

Full-Time/Part-Time Status: The Marketing M.S. degree program can be completed on a full- or part-time basis.

Affiliation(s): Research is supported by Fox School of Business and Management's Center for Data Analytics, Center for Data Science, Center for Statistical Analysis, and numerous grants from government and industry.

Accreditation: All Fox School of Business and Management graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB International).

Areas of Specialization: The M.S. in Marketing offers three concentrations for specialized study:

- Enterprise Marketing Management
- Marketing Research and Insight
- Strategic Advertising and Marketing

Job Prospects: Students in the M.S. in Marketing program receive career counseling and placement services provided by the Fox Center for Student Professional Development. Graduates are prepared for employment in computer/information technology, consulting, consumer products and services, energy/utilities, financial services/banking, government, healthcare, industrial products and services, manufacturing, pharmaceuticals, telecommunications, and tourism/transportation.

Non-Matriculated Student Policy: Students with an undergraduate GPA of 3.25 or higher may be allowed to take classes under non-matriculated status. Non-matriculated students may take a maximum of 9 credits. Any additional courses require the student to be matriculated in a program, to pursue the certificate, or to enroll in the 4+1 program.

Financing Opportunities: Citizens and permanent residents of the United States are considered domestic students and are typically eligible for federal student loans as well as alternative loans through private lenders. The Fox School grants 5% tuition scholarships to alumni who are admitted to the program. Scholarship funds are limited and available based on merit.

Employment opportunities on campus are limited. Many students find opportunities for work off campus. Note that international students must follow visa requirements.

Admission Requirements and Deadlines

Application Deadline:

Fall:

- December 15 – Early Decision Deadline
- March 1 – Scholarship Deadline and International Deadline
- June 30 – Final Deadline

Spring:

- June 30 – Scholarship Deadline and International Deadline
- November 1 – Final Deadline

Applications are reviewed as they are received and can sometimes be considered after the deadline.

APPLY ONLINE (http://fox.force.com/SiteLogin) to this Fox graduate program at http://fox.force.com/SiteLogin.

Letters of Reference:

Number Required: 2

From Whom: Professional references from an immediate supervisor, current or past, are preferred. Academic references are acceptable.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree is required.

Statement of Goals: Describe your future goals in specific terms and how the M.S. will assist you in achieving those goals.

Standardized Test Scores:

GRE/GMAT: Required. Scores for the GRE typically fall within the following percentile ranges: 50 to 99 Verbal; 80 to 99 Quantitative.

For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:

TOEFL: 100 iBT or 600 PBT minimum

IELTS: 7.5

PTE Academic: 72 minimum

Resume: Current resume required.

Transfer Credit: Upper-level graduate credits from an AACSB-accredited graduate business program, but not previously applied to a conferred degree, may be transferred into the M.S. program. The credits must be part of the required degree program at Temple University. To be transferred, the grade must be a "B" or better. The Admissions Committee makes recommendations for transferring credits to the
department chair. The maximum number of credits a student may transfer is 6.

**Program Requirements**

**General Program Requirements:**
*Number of Credits Required Beyond the Baccalaureate:* 30

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>MKTG 5001</td>
<td>Marketing Management/Strategy</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 5101</td>
<td>Consumer and Buyer Behavior</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 5103</td>
<td>Marketing Research: Techniques and Application 1</td>
<td>3</td>
</tr>
<tr>
<td>or ADV 5501</td>
<td>Advertising Research and Strategy</td>
<td></td>
</tr>
<tr>
<td>MKTG 5104</td>
<td>Marketing Strategy</td>
<td>3</td>
</tr>
</tbody>
</table>

**Concentration Courses**

Enterprise Marketing Management
- MKTG 5107: Product Management
- MKTG 5109: Mobile Marketing and Communications
- MKTG 5115: International Marketing
- MKTG 5156: Mktg Mgt-Digital Mktplac
- Elective(s) 2

Marketing Research and Insight
- MKTG 5111: Customer Data Analytics
- STAT 5001: Quantitative Methods for Business
- STAT 5607: Advanced Business Analytics
- Two additional STAT courses at the 5000 level and higher

Strategic Advertising and Marketing 3
- ADV 5502: Media Planning and Analysis
- ADV 5503: Persuasion and the Marketplace
- ADV 5504: Visual Communication and Branding
- ADV 5505: User Experience Design and Strategy
- STAT 5602: Visualization: The Art of Numbers and the Psychology of Persuasion

**Capstone Course**
- MKTG 5118 EMM Capstone 4
- or MKTG 5108 Data and Financial Driven Marketing

**Total Credit Hours:** 30

1. Students in the Enterprise Marketing Management and in the Marketing Research and Insight concentrations enroll in MKTG 5103. Students in the Strategic Advertising and Marketing concentration take ADV 5501.
2. Electives may be selected from the breadth of courses offered by Fox School of Business and Management with approval.
3. The concentration is offered jointly with the Klein College of Media and Communication at Temple University.
4. MKTG 5108 may be taken as the capstone course only by students in the Enterprise Marketing Management concentration.

**Culminating Events:**

**Capstone Experience:**
MKTG 5118 EMM Capstone constitutes the culminating event for the Marketing M.S. program. In this immersive capstone experience, students typically work with a real-world client to solve a strategic or analytic problem. With supervision and mentorship from a faculty member, students may conduct field research, analyze data, assess the market opportunity for the organization, and apply their learning to develop a strategic marketing communications plan for the client. Students present their plan at the end of the program.

**Contacts**

**Program Web Address:**

**Department Information:**
Fox School of Business and Management
1801 Liacouras Walk
701 Alter Hall (006-22)
Philadelphia, PA 19122
foxinfo@temple.edu
215-204-5890
215-204-7678
Fax: 215-204-1632

**Submission Address for Application Materials:**
[http://fox.force.com/SiteLogin](http://fox.force.com/SiteLogin)

**Department Contacts:**

**Enterprise Marketing Management Coordinator:**
Dennis Paris
dparis01@temple.edu
215-204-4128

**Director of Graduate Programs:**
Eric Eisenstein
Marketing Research and Insight Coordinator
eric.eisenstein@temple.edu
215-204-7039

**Specialized Master's Programs Coordinator:**
Rachel Carr
Associate Director for Specialized Master’s Programs
foxms@temple.edu
215-204-7678

**Quantitative Finance and Risk Management, M.S.**

FOX SCHOOL OF BUSINESS AND MANAGEMENT ([http://www.fox.temple.edu](http://www.fox.temple.edu))

**About the Program**

The M.S. in Quantitative Finance and Risk Management is an interdisciplinary program in the Fox School of Business and Management. The curriculum combines studies in financial theory, mathematical modeling, computational methods, and global markets.

**Time Limit for Degree Completion:** 2 years

**Campus Location:** Center City, Main
**Full-Time/Part-Time Status:** Students are required to complete the degree program through classes offered during the day or in the evening after 4:30 p.m. Required courses offered each year during the August Finance Academy must also be completed. Full-time students are able to complete the degree program in 10 or 22 months, while part-time students taking 8 or fewer credits per term are able to complete the program in 2 years.

**Affiliation(s):** Research is supported by Fox School of Business and Management’s Advanta Center for Research in Financial Institutions, Center for Healthcare Research and Management, Innovation and Entrepreneurship Institute, and Institute of Global Management Studies. Research interests of the Fox School faculty are also supported by numerous centers and institutes throughout Temple University. Faculty in the Finance Department conduct research in acquisitions dividend policy, asset-based back securities, corporate governance, corporate restructuring, portfolio theory, and real estate analysis.

**Accreditation:** All Fox School of Business and Management graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB International).

**Job Prospects:** Professionals with a Quantitative Finance and Risk Management focus are distinctively qualified to contribute in financial modeling, information technology, institutional risk management, portfolio management, securities trading and sales, and more.

**Non-Matriculated Student Policy:** Students with an undergraduate GPA of 3.0 or higher may be allowed to take classes under non-matriculated status. Non-matriculated students may take a maximum of 9 credits. Any additional courses require the student to be matriculated in a program.

**Financing Opportunities:** Assistantships, when available, require 20 hours of service per week engaging in teaching and/or supervised research. An assistantship provides a stipend and tuition scholarship.

### Admission Requirements and Deadlines

**Application Deadline:**

**Fall:**

- December 15 – Early Decision Deadline
- March 1 – Scholarship Deadline and International Deadline
- June 30 – Final Deadline

Applications are reviewed as they are received and can sometimes be considered after the deadline.

APPLY ONLINE (http://fox.force.com/SiteLogin) to this Fox graduate program at http://fox.force.com/SiteLogin.

**Letters of Reference:**

**Number Required:** 2

**From Whom:** Recommendations should be professional references from supervisors and co-workers or academic references. References should be obtained from those who know the applicant well and who can attest to the applicant's ability to excel in the M.S. in Quantitative Finance and Risk Management program.

**Coursework Required for Admission Consideration:** A strong record of achievement in quantitative coursework, including Multivariate Calculus, Linear Algebra, and Advanced Statistics and Probability, is required. Prior or anticipated exposure to Finance and Computer Programming is also required.

**Bachelor's Degree in Discipline/Related Discipline:** A baccalaureate degree is required.

**Statement of Goals:** An essay on your professional plans and goals is required. This statement should be 1 to 3 pages in length and reflect your influences, values, and aspirations and interest in the M.S. in Quantitative Finance and Risk Management program. The following questions may be addressed:

- What particular past experiences or previous exposure (academic, professional, etc.) prepared or motivated you to pursue an M.S. in Quantitative Finance and Risk Management degree?
- How would you expect to change over the course of the program?
- What personal and professional values and skills do you hope to acquire through the academic content?
- How will obtaining the M.S. in Quantitative Finance and Risk Management degree support your career objectives or potential career path(s)?
- Given the importance of teamwork and collaboration in business, what are the most significant strengths or contributions you bring to a team?

**Standardized Test Scores:**

- **GMAT/GRE:** Required. The average GMAT score is approaching 650.
  
For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:

- **TOEFL:** 100 iBT or 600 PBT minimum
- **IELTS:** 7.5 minimum
- **PTE Academic:** 72 minimum

**Resume:** Current resume required.

**Transfer Credit:** Transfer credit is not accepted for the M.S. in Quantitative Finance and Risk Management program.

### Program Requirements

**General Program Requirements:**

**Number of Credits Required Beyond the Baccalaureate:** 30

**Required Courses:**

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td><strong>Fall</strong></td>
<td></td>
</tr>
<tr>
<td>Finance Academy, August</td>
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<tr>
<td>FIN 5602 Corporate Finance</td>
<td>1</td>
</tr>
<tr>
<td>FIN 5604 Derivative Markets</td>
<td>1</td>
</tr>
<tr>
<td>FIN 5605 Fixed Income</td>
<td>1</td>
</tr>
<tr>
<td>FIN 5607 Stochastic Calculus Finance</td>
<td>1</td>
</tr>
<tr>
<td><strong>Fall Term</strong></td>
<td></td>
</tr>
<tr>
<td>FIN 5601 Financial Technology</td>
<td>1</td>
</tr>
<tr>
<td>FIN 5612 Asset Pricing</td>
<td>1.5</td>
</tr>
<tr>
<td>FIN 5614 Continuous Time Finance</td>
<td>1.5</td>
</tr>
<tr>
<td>FIN 5619 Quant Fixed Income</td>
<td>1.5</td>
</tr>
</tbody>
</table>
FIN 5621  Structured Finance  1.5
FIN 5624  Numerical Methods  1.5
FIN 5627  Financial Econometrics  1.5
FIN 5629  Value at Risk  1.5
FIN 5673  Financial Risk Management I  1.5
FIN 5675  Professional Development  1

Term Credit Hours  18

Spring
FIN 5631  Financial Time Series  1.5
FIN 5634  Stochastic Volatility  1.5
FIN 5639  Quantitative Risk Modeling  1.5
FIN 5641  Alternative Investments  1.5
FIN 5643  Structured Products  1.5
FIN 5648  Quantitative Portfolios  1.5
FIN 5649  Enterprise Risk Management  1.5
FIN 5674  Financial Risk Management II  1.5

Term Credit Hours  12

Total Credit Hours:  30

Culminating Events: Successful completion of coursework is required to earn the M.S. in Quantitative Finance and Risk Management degree.

Risk Management and Insurance, M.S.
FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program
This program is not accepting applications for the 2018-2019 academic year.

Statistics, M.S.
FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Program
The Department of Statistical Science offers an M.S. program through which students acquire in-depth knowledge of statistics. Graduates are trained to serve as professional statisticians in industry, research organizations, or government.

Time Limit for Degree Completion: 3 years

Campus Location: Main, with business foundation classes offered throughout the year. Upper-level courses are not offered at all campuses, but courses may be offered online.

Full-Time/Part-Time Status: Students complete the degree program through classes offered after 4:30 p.m. The degree program can be completed on a full- or part-time basis.

Areas of Specialization: Faculty members offer master's students substantial coursework in statistical theory and applications.

Job Prospects: Graduates of the master's program may find employment as statisticians in the pharmaceutical industry, in medical research organizations, or in other areas of business and government.

Non-Matriculated Student Policy: Students with an undergraduate GPA of 3.0 or above may take classes on a non-matriculated status. Non-matriculated students can take a maximum of 9 credits.

Financing Opportunities: Assistantships are typically reserved for those engaged in doctoral study.

Admission Requirements and Deadlines
Application Deadline:
Fall:
• December 15 – Early Decision Deadline and International Deadline
• March 1 – Scholarship Deadline
• June 30 – Final Deadline

Applications are reviewed as they are received and can sometimes be considered after the deadline.

International students who miss the December 15 deadline are required to submit to Temple University an evaluation of their transcript(s) by an approved educational evaluation firm.

Contacts
Program Web Address:

Department Information:
Fox School of Business and Management
1801 Liacouras Walk
701 Alter Hall (006-22)
Philadelphia, PA 19122
foxinfo@temple.edu
215-204-5890
215-204-7678
Fax: 215-204-1632

Submission Address for Application Materials:
http://fox.force.com/SiteLogin

Department Contacts:
Academic Director:
John Soss, CFA, FRM
jsoss@temple.edu
215-204-8453

Specialized Master's Programs Coordinator:
Rachel Carr
Associate Director for Specialized Master's Programs
foxms@temple.edu
215-204-7678
APPLY ONLINE (http://fox.force.com/SiteLogin) to this Fox graduate program at http://fox.force.com/SiteLogin.

**Letters of Reference:**
Number Required: 2

*From Whom:* Professional references from an immediate supervisor, current or past, are preferred. Academic references are acceptable.

**Coursework Required for Admission Consideration:** Students must have taken two semesters of university-level Calculus or its equivalent. A course in Linear Algebra is also desirable.

**Bachelor’s Degree in Discipline/Related Discipline:** A baccalaureate degree is required, although it need not be in a business discipline.

**Statement of Goals:** A statement of goals is required.

**Standardized Test Scores:**
GRE/GMAT: Required. Quantitative and verbal scores on the GRE should be in the 50th percentile or above. Scores under 500 on the GMAT are not considered for the M.S. program.

TOEFL: 88 iBT or 575 PBT minimum. Any student admitted with a TOEFL score below 100 iBT or 600 PBT must pass an English skills course during the first term of enrollment at Temple University. Those having taken the PBT have the additional option of testing out of the English course by taking and passing the SPEAK test at Temple.

**Resume:** Current resume required.

**Transfer Credit:** Upper-level graduate credits from an accredited graduate program, but not previously applied to a conferred degree, may be transferred into the M.S. program. The credits must be part of the required degree program at Temple University. To be transferred, the grade must be a “B” or better. The Admissions Committee makes recommendations with regard to transfer credits to the Director of the Graduate Program in Statistical Science. The maximum number of credits a student may transfer is 6.

**Program Requirements**

**General Program Requirements:**
Number of Credits Required Beyond the Baccalaureate: 30

**Required Courses:**

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>STAT 8001</td>
<td>Probability and Statistics Theory I</td>
<td>3</td>
</tr>
<tr>
<td>STAT 8002</td>
<td>Probability and Statistics Theory II</td>
<td>3</td>
</tr>
<tr>
<td>STAT 8003</td>
<td>Statistical Methods I</td>
<td>3</td>
</tr>
<tr>
<td>STAT 8004</td>
<td>Statistical Methods II</td>
<td>3</td>
</tr>
</tbody>
</table>

**Electives**

Total Credit Hours 30

1 Students select graduate business elective courses in consultation with the Director of the Graduate Program in Statistical Science.

**Culminating Event:** Satisfactory completion of coursework is all that is required to earn the degree.

**Contacts**

**Program Web Address:**
http://www.fox.temple.edu/departments/statistical-science/program/

**Department Information:**

Fox School of Business and Management
329 Speakman Hall
1810 North 13th Street
Philadelphia, PA 19122
foxinfo@temple.edu
215-204-5890
215-204-7678
Fax: 215-204-1632

**Submission Address for Application Materials:**

http://fox.force.com/SiteLogin

**Department Contacts:**

Graduate Program Director: Cheng Yong Tang
337 Speakman Hall
yongtang@temple.edu
215-204-3191

**Statistics, Ph.D.**

FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

**About the Program**

The primary purpose of the Ph.D. program in Statistics is to prepare statisticians for professional roles in research and application of statistics, operations research, or biostatistics. This activity may take place in academic, business, or government settings. The distinguishing characteristic of the Ph.D. program is its research dissertation. Consequently, a student entering the post-master’s part of the program (i.e., becoming a doctoral student) must expect to embark on a more intense phase of preparation in the theory, methods, and application of statistics. In short, the doctoral program is designed for able students who are willing to undertake a program of advanced study and research.

**Time Limit for Degree Completion:** 7 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** Students complete the degree program through classes offered before 4:30 p.m. The degree program is completed on a full-time basis.

**Interdisciplinary Study:** The program encourages interdisciplinary coursework, research, and interactions among faculty and students with interests in business, biology, and health sciences.

**Areas of Specialization:** Faculty members specialize and offer substantial coursework in:

- Applications of statistics to the law
- Asymptotic theory
• Bayesian inference
• Clinical trials
• Design of experiments
• Inequalities in statistics
• Linear and generalized linear models
• Methods in AIDS research and teratology
• Multiple comparisons
• Multivariate analysis
• Parametric and nonparametric inference
• Pharmaceutical statistics
• Quality control
• Ranking and selection
• Resampling methods
• Robust inference
• Statistical computing and graphics
• Survey sampling
• Survival analysis
• Time series

Job Prospects: The program is dedicated to producing well-trained statisticians who work as researchers in academia, industry, and government. In recent years, more than half of our Ph.D. recipients found employment as statisticians in the pharmaceutical industry or in medical research organizations.

Non-Matriculated Student Policy: Qualified non-matriculated students are permitted to take doctoral courses.

Financing Opportunities: The principal duties of a Teaching Assistant include teaching, assisting faculty members in the classroom, and grading. An assistantship provides a stipend and tuition remission.

Admission Requirements and Deadlines

Application Deadline:

Fall: January 15; December 15 international

Applications for the Ph.D. program are all processed together after the deadline. International students who miss the December 15 deadline are required to submit to Temple University an evaluation of their transcript(s) by an approved educational evaluation firm.

APPLY ONLINE (http://fox.force.com/SiteLogin) to this Fox graduate program at http://fox.force.com/SiteLogin.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained from college/university faculty members familiar with the applicant's academic competence.

Coursework Required for Admission Consideration: Applicants must have completed coursework in Differential and Integral Calculus, including Multivariable Calculus, as well as a course in Linear Algebra.

Master's Degree in Discipline/Related Discipline: A master's degree is not required.

Bachelor's Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Statement of Goals: A statement of goals is required.

Standardized Test Scores:
GRE: Required. Successful applicants typically possess elite level scores on the quantitative section of the GRE.

TOEFL: 100 iBT or 600 PBT minimum

Resume: Current resume required.

Program Requirements

General Program Requirements:
Number of Didactic Credits Required Beyond the Baccalaureate: 48

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>STAT 8002</td>
<td>Probability and Statistics Theory II</td>
<td>3</td>
</tr>
<tr>
<td>STAT 8003</td>
<td>Statistical Methods I</td>
<td>3</td>
</tr>
<tr>
<td>STAT 8004</td>
<td>Statistical Methods II</td>
<td>3</td>
</tr>
<tr>
<td>STAT 9001</td>
<td>Advanced Statistical Inference I</td>
<td>3</td>
</tr>
<tr>
<td>STAT 9002</td>
<td>Advanced Statistical Inference II</td>
<td>3</td>
</tr>
</tbody>
</table>

At least two additional 9000-level courses 6

Additional coursework in Statistics and electives, including courses taken outside Statistics with prior approval of the Director of Graduate Programs in Statistical Science 24

Total Credit Hours 48

Additional Requirements: An additional requirement is completion of a Summer research paper.

Culminating Events:

Statistics Competency Examination:
An assessment of the students' proficiency in statistical theory and methodology is made at the end of their first year in the program with an exam offered in June. Students who fail the statistics competency examination on the first attempt must sit for reexamination prior to the Fall term of their second year. A second failure results in dismissal from the University. No third attempt is allowed.

Preliminary Examination:
The purpose of the preliminary examination is to demonstrate critical and interpretive knowledge of current research. The subject areas are determined, in advance, by the faculty of the department. The preliminary exam should be completed no more than one term after the student completes the coursework component of the program. Students who are preparing to write their preliminary examinations should confirm a time and date with their departmental advisor.

The members of the student's department write the questions for the preliminary exam. The student must answer every question on the examination in order to be evaluated by the Department Committee. The evaluators look for a breadth and depth of understanding of specific research areas; a critical application of that knowledge to specific phenomena; and an ability to write technical prose. Each member votes
to pass or fail the student. In order to pass, a majority of the committee members must agree that the exam has been satisfactorily completed.

Proposal:
The dissertation proposal demonstrates the student’s knowledge of and ability to conduct the proposed research. The proposal should consist of the following:

1. the context and background surrounding a particular research problem;
2. an exhaustive survey and review of literature related to the problem; and
3. a detailed methodological plan for investigating the problem.

The proposal should be completed and approved no more than one year after completing coursework. Upon approval, a timeline for completing the investigation and writing process is established.

Dissertation:
The doctoral dissertation is an original empirical study that makes a significant contribution to the field. It should expand the existing knowledge and demonstrate the student’s knowledge of both research methods and a mastery of her/his primary area of interest. Dissertations should be rigorously investigated; uphold the ethics and standard of the field; demonstrate an understanding of the relationship between the primary area of interest and the broader field of business; and be prepared for publication in an academic journal.

The Doctoral Advisory Committee is formed to oversee the student’s doctoral research and is comprised of at least three Graduate Faculty members. Two members, including the Chair, must be from the student’s department. The Chair is responsible for overseeing and guiding the student’s progress, coordinating the responses of the committee members, and informing the student of her/his academic progress.

The Dissertation Examinining Committee evaluates the student’s dissertation and oral defense, including the student’s ability to express verbally her/his research question, methodological approach, primary findings, and implications. The Dissertation Examinining Committee votes to pass or fail the dissertation and the defense at the conclusion of the public presentation. This committee is comprised of the Doctoral Advisory Committee and at least one additional faculty member from outside the department.

If any member decides to withdraw from the committee, the student shall notify the Chair of the Dissertation Examinining Committee and the Director of Graduate Programs in Statistical Science. The student is responsible for finding a replacement, in consultation with the Chair. Inability to find a replacement shall constitute evidence that the student is unable to complete the dissertation. In such a case, the student may petition the Director of Graduate Programs in Statistical Science for a review. Once review of the facts and circumstances is completed, the Director will rule on the student’s progress. If the Director rules that the student is not capable of completing the dissertation, s/he will be dismissed from the program. This decision may be appealed to the Senior Associate Dean. If dismissed, the student may appeal to the Graduate School.

Students who are preparing to defend their dissertation should confirm a time and date with their Dissertation Examinining Committee and register with the Graduate Secretary at least 15 days before the defense is to be scheduled. The Graduate Secretary arranges the time, date, and room within two working days, and forwards to the student the appropriate forms. After the Graduate Secretary has arranged the time, date, and room for the defense, the student must send to the Graduate School a completed "Announcement of Dissertation Defense" form, found in TUportal under the Tools tab within “University Forms,” at least 10 days before the defense. The department posts flyers announcing the defense, and the Graduate School announces the defense on its website.

Contacts

Program Web Address:
http://www fox.temple.edu/phd/statistics/

Department Information:
Fox School of Business and Management
1801 Liacouras Walk
334-337 Alter Hall (006-22)
Philadelphia, PA 19122
foxphdoffice@temple.edu
215-204-7677
Fax: 215-204-5698

Submission Address for Application Materials:
http://fox.force.com/SiteLogin

Department Contacts:
Associate Director, Doctoral Programs:
Lisa Fitch
A336 Alter Hall
foxphdoffice@temple.edu
215-204-7677

Graduate Program Director:
Cheng Yong Tang
337 Speakman Hall
yongtang@temple.edu
215-204-3191

Strategic Advertising and Marketing, M.S.

FOX SCHOOL OF BUSINESS AND MANAGEMENT (https://www.fox.temple.edu)

About the Program

The M.S. in Strategic Advertising and Marketing combines global leadership insights from the Fox School of Business and Management with the storytelling expertise of Temple University’s Lew Klein College of Media and Communication. Designed for professionals working in industry, the part-time curriculum balances theory with practical, hands-on application that is relevant for the rapidly evolving media environment. Students gain hands-on experience in crafting multi-platform media plans, proposing market research strategies, creating data visualizations, and analyzing performance metrics. Ultimately, they become skilled in bridging the gap between marketing and advertising. Students who complete the degree can:

- understand and apply the 4P’s of marketing;
- develop a marketing plan for an organization;
- evaluate consumer behavior and link it to marketing strategy; and
• apply strategic marketing concepts, integrating data analysis, consumer behavior, and other theories to make decisions.

**Time Limit for Degree Completion:** 6 years

**Campus Location:** Center City, Main

**Full-Time/Part-Time Status:** The degree program is completed on a part-time basis through evening classes.

**Affiliation(s):** Research is supported by Fox School of Business and Management’s Center for Data Analytics, Center for Data Science, Center for Statistical Analysis, and numerous grants from government and industry.

**Accreditation:** All Fox School of Business and Management graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB International).

**Job Prospects:** Students in the M.S. in Strategic Advertising and Marketing program receive career counseling and placement services provided by the Fox Center for Student Professional Development. Graduates are prepared for the following roles:

- Director of Advertising and Data Analytics, Marketing Analytics, or Mobile Strategy
- Interactive Account Director, Brand Strategist, Content Producer, Marketing Manager/Strategist, or Marketing Specialist
- Lead Generation or SEO Specialist
- Manager of Integrated Marketing, Mobile Advertising Accounts, SEO Accounts, Social Media, or Strategic Planning
- Marketing Research Analyst
- New Media Planner/Buyer
- Paid Search Specialist
- Product Manager
- User Experience Strategist

**Non-Matriculated Student Policy:** Students with an undergraduate GPA of 3.25 or higher may be allowed to take classes under non-matriculated status. Non-matriculated students may take a maximum of 9 credits. Any additional courses require the student to be matriculated in a program, to pursue the certificate, or to enroll in the 4+1 program.

**Financing Opportunities:** Citizens and permanent residents of the United States are considered domestic students and are typically eligible for federal student loans as well as alternative loans through private lenders. The Fox School grants 5% tuition scholarships to alumni who are admitted to the program. Scholarship funds are limited and available based on merit.

Employment opportunities on campus are limited. Many students find opportunities for work off campus. Note that international students must follow visa requirements.

**Admission Requirements and Deadlines**

**Application Deadline:**

**Fall:**

- December 15 – Early Decision Deadline
- March 1 – Scholarship Deadline and International Deadline
- June 30 – Final Deadline

**Spring:**

- August 1 – Scholarship Deadline and International Deadline
- November 1 – Final Deadline

Applications are reviewed as they are received and can sometimes be considered after the deadline.

APPLY ONLINE (http://fox.force.com/SiteLogin) to this Fox graduate program at https://fox.force.com/SiteLogin.

**Letters of Reference:**

**Number Required:** 2

**From Whom:** Professional references from an immediate supervisor, current or past, are preferred. Academic references are acceptable.

**Bachelor’s Degree in Discipline/Related Discipline:** A baccalaureate degree is required.

**Statement of Goals:** Describe your future goals in specific terms and how the M.S. will assist you in achieving those goals.

**Standardized Test Scores:**

- GRE/GMAT: Required. Scores for the GRE typically fall within the following percentile ranges: 50 to 99 Verbal; 80 to 99 Quantitative.
- For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:
  - TOEFL: 100 iBT or 600 PBT minimum
  - IELTS: 7.5
  - PTE Academic: 72 minimum

**Resume:** Current resume required.

**Transfer Credit:** Upper-level graduate credits from an AACSB-accredited graduate business program, but not previously applied to a conferred degree, may be transferred into the M.S. program. The credits must be part of the required degree program at Temple University. To be transferred, the grade must be a "B" or better. The Admissions Committee makes recommendations for transferring credits to the department chair. The maximum number of credits a student may transfer is 6.

**Program Requirements**

**General Program Requirements:**

Number of Credits Required Beyond the Baccalaureate: 30

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADV 5501</td>
<td>Advertising Research and Strategy</td>
<td>3</td>
</tr>
<tr>
<td>ADV 5502</td>
<td>Media Planning and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ADV 5503</td>
<td>Persuasion and the Marketplace</td>
<td>3</td>
</tr>
<tr>
<td>ADV 5504</td>
<td>Visual Communication and Branding</td>
<td>3</td>
</tr>
<tr>
<td>ADV 5505</td>
<td>User Experience Design and Strategy</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 5001</td>
<td>Marketing Management/Strategy</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 5101</td>
<td>Consumer and Buyer Behavior</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 5104</td>
<td>Marketing Strategy</td>
<td>3</td>
</tr>
</tbody>
</table>
Culminating Events:

Capstone Experience:

MKTG 5118 EMM Capstone constitutes the culminating event for the Strategic Advertising and Marketing M.S. program. In this immersive capstone experience, students typically work with a real-world client to solve a strategic or analytic problem. With supervision and mentorship from a faculty member, students may conduct field research, analyze data, assess the market opportunity for the organization, and apply their learning to develop a strategic marketing communications plan for the client. Students present their plan at the end of the program.

Contacts

Program Web Address:
https://www.fox.temple.edu/specialized-masters/strategic-advertising-marketing/

Department Information:

Fox School of Business and Management
1801 Liacouras Walk
701 Alter Hall (006-22)
Philadelphia, PA 19122
foxinfo@temple.edu
215-204-5890
215-204-7678
Fax: 215-204-1632

Submission Address for Application Materials:
https://fox.force.com/SiteLogin

Department Contacts:

Program Coordinator:
Jennifer Sundstrom-Fitzgerald
jen.fitzgerald@temple.edu
215-204-9142

Director of Graduate Programs:
Eric Eisenstein
Marketing Research and Insight Coordinator
eric.eisenstein@temple.edu
215-204-7039

Specialized Master's Programs Coordinator:
Rachel Carr
Associate Director for Specialized Master's Programs
foxms@temple.edu
215-204-7678

About the Certificate

The graduate certificate in Business Analytics is designed to foster deep analytical skills and the know-how needed to use the analysis of big data to make effective decisions. Students are prepared to:

- understand descriptive, predictive, and prescriptive analytics, recognize when each is appropriate, and understand the fundamental methods and techniques used in each;
- understand the applications, assumptions, and limitations of business-analytic models and techniques;
- develop expertise in the use and application of analytical tools and software;
- obtain information and insight from datasets of varying complexity; and
- effectively communicate insights and results of analyses in managerially relevant terms.

Admission Requirements and Deadlines

Students are accepted into the certificate program in both the Fall and Spring terms.

APPLY ONLINE to this certificate program (http://fox.force.com/SiteLogin).

Certificate Requirements

Number of Credits Required to Complete the Certificate: 12

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT 5001</td>
<td>Quantitative Methods for Business</td>
<td>3</td>
</tr>
<tr>
<td>STAT 5602</td>
<td>Visualization: The Art of Numbers and the Psychology of Persuasion</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives: Select two from the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT 5603</td>
<td>Statistical Learning and Data Mining</td>
</tr>
<tr>
<td>STAT 5604</td>
<td>Experiments: Knowledge by Design</td>
</tr>
<tr>
<td>STAT 5605</td>
<td>Decision Models: From Data to Decisions</td>
</tr>
<tr>
<td>STAT 5606</td>
<td>Data: Care, Feeding, and Cleaning</td>
</tr>
<tr>
<td>STAT 5607</td>
<td>Advanced Business Analytics</td>
</tr>
</tbody>
</table>

Total Credit Hours 12

Contacts

Department Web Address:
http://www.fox.temple.edu/graduate-certificates/certificates/graduate-certificate-in-business-analytics/

Department Information:
Dept. of Statistical Science

Department Contacts:

Course Registration:
Rachel Carr
Associate Director for Specialized Master's Programs
Graduate Certificate: Entrepreneurship and Technology Commercialization

FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Certificate

The graduate certificate in Entrepreneurship and Technology Commercialization is a concise, high-impact program that gives participants the understanding and practical skills for turning innovative ideas or new technologies into commercially viable products and services. It is part of a system of technology commercialization support programs offered by the Innovation and Entrepreneurship Institute (IEI) (http://www.fox.temple.edu/institutes-and-centers/innovation-entrepreneurship-institute/events/overview). This certificate is jointly designed and delivered by the Fox School of Business and Management and the College of Engineering.

Our graduate certificates are designed for working professionals and leverage hybrid course formats that provide the best of both online and in-person experiences. Rigorous, high-impact courses are taught by world-leading faculty. Credits earned transfer into programs offered by the Innovation and Entrepreneurship Institute (IEI) or our M.B.A. (https://www.fox.temple.edu/mba) degree.

Some questions answered in this certificate program are:

• How do you transform technological features and innovations into value propositions from a customer's perspective?
• How can you understand the adoption decision in order to formulate a "go-to-market" strategy?
• How can you consider multiple business model options to increase the likelihood of new venture success?

This certificate is for students who aspire to be entrepreneurs, inventors, and managers of growing profitable businesses and want to learn to “think out of the box.” The central focus of the first set of modules is on two key success factors:

1. the entrepreneur or innovator, and
2. the ability to create, recognize, and evaluate opportunities.

Students learn how to experiment with different go-to-market strategies and business models as they assess the feasibility of their own and others’ ideas. This certificate program is appropriate for:

• Corporate R&D personnel who want to better understand how to position their inventions for commercial success or want to move into new product development or R&D management roles
• Managers and executives who must monetize technology or innovative products and services as well as anyone involved in technology transfer or commercialization
• Faculty and Ph.D. students who have invented a technology and want help applying for translational research grants (e.g., NSF I-Teams / I-Corp, SBIR / STTR Phase I Funding) or want to commercialize the technology (either via licensing or starting a new venture)
• Entrepreneurs or graduate students with an innovative idea for a new product/service or that might like to be paired with an inventor or patented technology

Admission Requirements and Deadlines

Students are accepted into the certificate program in both the Fall and Spring terms; Summer start dates may be available in some years. Faculty and students enrolled in Ph.D., M.S., and M.B.A. programs in Temple University’s College of Science and Technology, College of Engineering, Lewis Katz School of Medicine, and Fox School of Business and Management are automatically accepted into the certificate program. Other participants with 10 years of work experience, a 3.0 undergraduate GPA, or GMAT scores in the 75 percentile and above are also typically accepted automatically. Prospective participants with 3 to 9 years of work experience must submit a resume and statement of goals to be considered for admission.

APPLY ONLINE to this certificate program (http://fox.force.com/SiteLogin).

Certificate Requirements

Number of Credits Required to Complete the Certificate: 4.5 for a non-transcripted certificate or 9 for a transcripted certificate

After completing 4.5 credits, students receive a non-transcripted certificate and have the option to stop there, continue to complete the 9-credit transcripted certificate, or apply to transfer into the Innovation Management and Entrepreneurship M.S. (http://bulletin.temple.edu/graduate/scd/fox/innovation-management-entrepreneurship-ms/#text)

Course Options for the 9-credit Graduate Certificate:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SGM 5137</td>
<td>Entrepreneurial Thinking and New Venture Creation</td>
<td>3</td>
</tr>
<tr>
<td>SGM 5139</td>
<td>Lean Entrepreneurship / Innovation: Fast &amp; Frugal Methods to Launch Startups &amp; Test Innovative Ideas</td>
<td>3</td>
</tr>
<tr>
<td>SGM 5103</td>
<td>Management of Technology and Innovation</td>
<td>3</td>
</tr>
<tr>
<td>SGM 5131</td>
<td>Social Entrepreneurship</td>
<td></td>
</tr>
<tr>
<td>SGM 5133</td>
<td>Management Consulting: Principles and Practices</td>
<td></td>
</tr>
<tr>
<td>SGM 5136</td>
<td>Principles of Strategy and Management</td>
<td></td>
</tr>
<tr>
<td>SGM 5142</td>
<td>Business Model Innovation</td>
<td></td>
</tr>
<tr>
<td>SGM 5144</td>
<td>Creativity Unleashed: Harnessing Creativity to Solve Real-World Innovation Challenges</td>
<td></td>
</tr>
<tr>
<td>SGM 5145</td>
<td>Plan, Pitch, and Fund an Entrepreneurial Start-Up</td>
<td></td>
</tr>
<tr>
<td>SGM 5182</td>
<td>Independent Study</td>
<td></td>
</tr>
<tr>
<td>SGM 5190</td>
<td>Special Topics: General &amp; Strategic Management</td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours 9

1 Students who do not hold a business degree or who have no business background are strongly encouraged to take this course as their elective.
Course selection must be approved.

Contacts
Certificate Program Web Address:
https://www.fox.temple.edu/graduate-certificates/certificates/graduate-certificate-in-entrepreneurship-technology-commercialization/

Department Information:
Innovation & Entrepreneurship Institute (IEI)

Department Contacts:
Program Content:
Robert C. McNamee, Ph.D.
IEI Managing Director
robert.mcnamee@temple.edu
215-204-4119

Course Registration:
Rachel Carr
Associate Director for Specialized Master’s Programs
rcarr@temple.edu
215-204-0574

Graduate Certificate: Healthcare Innovation Management
FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Certificate
The graduate certificate in Healthcare Innovation Management is a concise, high-impact program that gives healthcare leaders the tools to become more innovative in their thinking and more focused on non-traditional approaches to delivery. Our healthcare system is undergoing dramatic changes as a result of market forces, consumer expectations, and implementation of the Affordable Care Act (ACA). Also known as Obamacare, the ACA includes direct and indirect incentives to innovate in financing, organizational form, and delivery.

Our graduate certificates are designed for working professionals and leverage hybrid course formats that provide the best of both online and in-person experiences. Rigorous, high-impact courses are taught by world-leading faculty. Credits earned transfer into graduate degree programs, such as the Innovation Management and Entrepreneurship M.S. (http://www.fox.temple.edu/specialized-masters/innovation-management-entrepreneurship) and the M.B.A. (http://www.fox.temple.edu/mba) in Business Administration/Health Sector Management. This certificate is jointly designed by the Department of Risk, Insurance and Healthcare Management and the Department of Strategic Management in the Fox School of Business and Management.

Admission Requirements and Deadlines
Students are accepted into the certificate program in both the Fall and Spring terms; Summer start dates may be available in some years. Faculty and students enrolled in Ph.D., M.S., and M.B.A. programs in Temple University’s College of Science and Technology, College of Engineering, School of Medicine, and Fox School of Business and Management are automatically accepted into the certificate program.

Other participants with 10 years of work experience, a 3.0 undergraduate GPA, or GMAT scores in the 75 percentile and above are also typically accepted automatically. Prospective participants with 3 to 9 years of work experience must submit a resume and statement of goals to be considered for admission.

APPLY ONLINE to this certificate program (http://fox.force.com/SiteLogin).

Certificate Requirements
Number of Didactic Credits Required to Complete the Certificate: 9-12, depending on student background, experience, and professional goals

Course Options for the Graduate Certificate:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM 5601</td>
<td>The Organizational Structure of the US Health System</td>
<td>4.5-6</td>
</tr>
<tr>
<td>HCM 5602</td>
<td>Market Forces, Regulation and Policy in the US Health System</td>
<td>4.5-6</td>
</tr>
<tr>
<td>HCM 5603</td>
<td>Population Health Management</td>
<td>4.5-6</td>
</tr>
<tr>
<td>HCM 5604</td>
<td>Analytic Foundations of Health and Healthcare</td>
<td>4.5-6</td>
</tr>
<tr>
<td>HCM 5605</td>
<td>Healthcare Market Structure and Strategy</td>
<td>4.5-6</td>
</tr>
<tr>
<td>HCM 5606</td>
<td>Financial Analysis and Managerial Accounting for Healthcare Organizations</td>
<td>4.5-6</td>
</tr>
<tr>
<td>HCM 5607</td>
<td>Corporate Finance and Strategy in Healthcare</td>
<td>4.5-6</td>
</tr>
<tr>
<td>HCM 5621</td>
<td>Healthcare Analytics</td>
<td>4.5-6</td>
</tr>
<tr>
<td>HCM 5622</td>
<td>International Health Systems</td>
<td>4.5-6</td>
</tr>
<tr>
<td>HCM 5623</td>
<td>Healthcare Risk Management and Patient Safety</td>
<td>4.5-6</td>
</tr>
<tr>
<td>HCM 5624</td>
<td>Pharmaceutical Trends, Issues and Policies</td>
<td>4.5-6</td>
</tr>
<tr>
<td>HCM 5625</td>
<td>Strategic Context of the Pharmaceutical Industry Elective, with approval of the M.B.A. Program Director</td>
<td>4.5-6</td>
</tr>
<tr>
<td>SGM 5112</td>
<td>Competing on Value: Analyzing and Shaping Your Industry</td>
<td>4.5-6</td>
</tr>
<tr>
<td>SGM 5114</td>
<td>Managing Strategic Alliances: Competing through Collaborations</td>
<td>4.5-6</td>
</tr>
<tr>
<td>SGM 5117</td>
<td>New Venture Creation: Entrepreneurial Opportunities, Resources, and Teams</td>
<td>4.5-6</td>
</tr>
<tr>
<td>SGM 5118</td>
<td>Innovation-Based Strategy: Managing Disruptive Change</td>
<td>4.5-6</td>
</tr>
<tr>
<td>SGM 5121</td>
<td>Emerging Market Innovation: Reinventing the Multinational Firm</td>
<td>4.5-6</td>
</tr>
<tr>
<td>SGM 5122</td>
<td>Business Model Innovation: Profitable and High-Impact by Design</td>
<td>4.5-6</td>
</tr>
<tr>
<td>SGM 5123</td>
<td>Corporate Strategy: Managing Diversified Firms</td>
<td>4.5-6</td>
</tr>
<tr>
<td>SGM 5124</td>
<td>Creative Problem Solving: Perspectives &amp; Techniques that Improve Creativity in Organizations &amp; Life</td>
<td>4.5-6</td>
</tr>
<tr>
<td>SGM 5126</td>
<td>Innovation Adoption and Diffusion: Finding First Customers and Driving Widespread Implementation</td>
<td>4.5-6</td>
</tr>
</tbody>
</table>
SGM 5127  Managing Knowledge Networks: Understanding & Analyzing Social Networks in Organizations & Beyond

SGM 5128  The Crowd, The Cloud, and Open Innovation Strategy
Elective, with approval of the M.S. Program Director

Total Credit Hours 9-12

Contacts
Certificate Program Web Address:
http://www.fox.temple.edu/graduate-certificates/certificates/graduate-certificate-in-healthcare-innovation-management/

Department Information:
Dept. of Risk, Insurance and Healthcare Management
Department of Strategic Management

Department Contacts:
Faculty Directors:
Barbara Manaka
Programs in Healthcare Management
barbara.manaka@temple.edu
215-204-4963

Robert C. McNamee, Ph.D.
MS Innovation Management & Entrepreneurship
robert.mcnamee@temple.edu
215-204-4119

Graduate Certificate: Innovation Strategy

FOX SCHOOL OF BUSINESS AND MANAGEMENT (http://www.fox.temple.edu)

About the Certificate

The Innovation Strategy graduate certificate is a concise, high-impact program that prepares the next generation of innovation leaders and high-potential employees to build agile organizations, enhance innovation, and make decisions appropriate for the rapidly changing global competitive landscape.

Our graduate certificates are designed for working professionals and leverage hybrid course formats that provide the best of both online and in-person experiences. Rigorous, high-impact courses are taught by world-leading faculty. Credits earned transfer into graduate degree programs, such as the Innovation Management and Entrepreneurship M.S. (http://www.fox.temple.edu/specialized-masters/innovation-management-entrepreneurship) or our highly ranked M.B.A. (http://www.fox.temple.edu/mba) degree.

Some questions answered in this certificate program are:

- How do you create an organizational environment that rewards innovation?
- How do you design structures to reduce resistance to change?

Innovation and entrepreneurship are ubiquitous in today’s modern competitive landscape. Firms that sit still are left behind as new leaders or, indeed, the entire industry surges ahead. In this rapidly changing landscape, it is critical that employees and managers alike understand how to overcome both the strategic and tactical challenges of organizational innovation. The Innovation Strategy certificate program provides students with the skills needed to remain competitive and strategically drive innovation within an organization and is appropriate for:

- Managers responsible for strategy and innovation
- High-potential employees who want to drive innovation
- Entrepreneurs who want to build organizations focused on innovation and change

Admission Requirements and Deadlines

Students are accepted into the certificate program in both the Fall and Spring terms; Summer start dates may be available in some years. Faculty and students enrolled in Ph.D., M.S., and M.B.A. programs in Temple University’s College of Science and Technology, College of Engineering, School of Medicine, and Fox School of Business and Management are automatically accepted into the certificate program. Other participants with 10 years of work experience, a 3.0 undergraduate GPA, or GMAT scores in the 75 percentile and above are also typically accepted automatically. Prospective participants with 3 to 9 years of work experience must submit a resume and statement of goals to be considered for admission.

APPLY ONLINE to this certificate program (http://fox.force.com/SiteLogin).

Certificate Requirements

Number of Credits Required to Complete the Certificate: 4.5 for a non-transcripted certificate or 9 for a transcripted certificate

After completing 4.5 credits, students receive a non-transcripted certificate and have the option to stop there, continue to complete the 9-credit transcripted certificate, or apply to transfer into the Innovation Management and Entrepreneurship M.S. (http://bulletin.temple.edu/graduate/scd/fox/innovation-management-entrepreneurship-ms/#text)

Course Options for the 9-credit Graduate Certificate:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SGM 5135</td>
<td>Innovation Intelligence: Plan, Build, Protect, and Monetize a Technology / Innovation Portfolio</td>
<td>3</td>
</tr>
<tr>
<td>SGM 5138</td>
<td>Global Innovation Strategy: Creating Agile, Innovative, Globally-Competitive Organizations</td>
<td>3</td>
</tr>
<tr>
<td>SGM 5103</td>
<td>Management of Technology and Innovation</td>
<td>3</td>
</tr>
<tr>
<td>SGM 5104</td>
<td>Management of Growth, Decline and Turnaround</td>
<td>3</td>
</tr>
<tr>
<td>SGM 5105</td>
<td>Industry Competitive Analysis</td>
<td>3</td>
</tr>
<tr>
<td>SGM 5107</td>
<td>Management of Mergers and Acquisitions</td>
<td>3</td>
</tr>
<tr>
<td>SGM 5133</td>
<td>Management Consulting: Principles and Practices</td>
<td>3</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
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<tr>
<td>SGM 5134</td>
<td>Engagement Management</td>
<td></td>
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<tr>
<td>SGM 5136</td>
<td>Principles of Strategy and Management ¹</td>
<td></td>
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<tr>
<td>SGM 5139</td>
<td>Lean Entrepreneurship / Innovation: Fast &amp; Frugal Methods to Launch Startups &amp; Test Innovative Ideas</td>
<td></td>
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<tr>
<td>SGM 5142</td>
<td>Business Model Innovation</td>
<td></td>
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<tr>
<td>SGM 5144</td>
<td>Creativity Unleashed: Harnessing Creativity to Solve Real-World Innovation Challenges</td>
<td></td>
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<tr>
<td>SGM 5148</td>
<td>Open Innovation and Managing Strategic Alliances</td>
<td></td>
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<tr>
<td>SGM 5182</td>
<td>Independent Study ²</td>
<td></td>
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<tr>
<td>SGM 5190</td>
<td>Special Topics: General &amp; Strategic Management ²</td>
<td></td>
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<tr>
<td>SGM 5501</td>
<td>International Management</td>
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</tr>
</tbody>
</table>

Total Credit Hours 9

¹ Students who do not hold a business degree or who have no business background are strongly encouraged and may be required to take this course as their elective.

² Course selection must be approved.

Contacts

Certificate Program Web Address:
http://www.fox.temple.edu/graduate-certificates/certificates/graduate-certificate-in-innovation-strategy/

Department Information:
Innovation & Entrepreneurship Institute (IEI)

Department Contacts:

Program Content:
Robert C. McNamee, Ph.D.
IEI Managing Director
robert.mcnamee@temple.edu
215-204-4119

Course Registration:
Rachel Carr
Associate Director for Specialized Master's Programs
rcarr@temple.edu
215-204-0574
Kornberg School of Dentistry

Temple University’s Maurice H. Kornberg School of Dentistry is a center of excellence in dental education, patient care, and community-based service and research. The school’s mission is to promote oral health through the education of diverse general and specialty dentists with advanced skills who provide care that is comprehensive, patient centered, and evidence based, and who engage in research, scholarly activities, and community service. Founded in 1863 as the Philadelphia Dental College, it is the second oldest continuously operating dental school in the United States.

The Kornberg School of Dentistry provides more than 300,000 patient procedures every year and is known around the nation and the world for the quality of its clinical education. The school’s patient base and outreach in its immediate community give students exceptional opportunities to develop clinical skills in the full range of oral health care. A complete renovation of the school’s preclinical lab, four general practice clinics, and eight specialty clinics completed in 2014 has created a state-of-the-art environment for clinical education and patient care. Temple dental students work in a comprehensive-care, large-practice setting equipped with the latest technologies, including computer-aided design and computer-aided manufacturing (CAD/CAM) and cone-beam imaging.

A growing faculty research enterprise explores issues with broad-scale impact on dental and overall health. Dental faculty are conducting research into remineralization of dental enamel; regeneration of dental pulp tissue; development of bacterial viruses to combat infections caused by antibiotic-resistant bacterial strains; the effect of maternal behavior in influencing dental hygiene practices in young children; and other topics.

Temple’s Kornberg School of Dentistry prepares students to serve their patients and to shape the continued development of the dental profession and oral health. Kornberg School graduates demonstrate the highest levels of skills, with outstanding manual dexterity, diagnostic and clinical skills, and a sound understanding of the science and business aspects of dental practice.

Programs

Degree Program

- Oral Biology, M.S. (p. 371)

Professional Certificates

- Advanced Education in General Dentistry
- Dental Public Health
- Endodontics
- Orthodontics
- Periodontics

Graduate Faculty

Jasim M. Albandar, Professor, Department of Periodontology and Oral Implantology, Kornberg School of Dentistry; D.M.D., Temple University.

Vinodh Bhoopathi, Assistant Professor, Department of Pediatric Dentistry and Community Oral Health Sciences, Kornberg School of Dentistry; D.Sc.D., Boston University.

Kenneth G. Boberick, Associate Professor, Department of Restorative Dentistry, Kornberg School of Dentistry; D.M.D.

Jeffrey H. Godel, Associate Professor (Clinician Scholar), Department of Orthodontics, Kornberg School of Dentistry; D.D.S.

Amid Ismail, Professor, Department of Restorative Dentistry, Kornberg School of Dentistry; D.P.H., University of Michigan.

Paul Jones, Assistant Professor, Department of Pediatric Dentistry and Community Oral Health Sciences, Kornberg School of Dentistry; Ph.D., Temple University.

Laurie MacPhail, Professor, Department of Oral Maxillofacial Pathology, Medicine and Surgery, Kornberg School of Dentistry; D.M.D.

Santiago Orrego, Assistant Professor, Department of Restorative Dentistry, Kornberg School of Dentistry; Ph.D., University of Maryland Baltimore County.

Thomas E. Rams, Professor, Department of Periodontology and Oral Implantology, Kornberg School of Dentistry; D.D.S., University of Maryland.

James J. Sciote, Professor, Department of Orthodontics, Kornberg School of Dentistry; Ph.D., University of Michigan.

Roy H. Stevens, Professor, Department of Endodontology, Kornberg School of Dentistry; D.D.S., Columbia University.

Marisol Tellez-Merchán, Associate Professor, Department of Pediatric Dentistry and Community Oral Health Sciences, Kornberg School of Dentistry; Ph.D., University of Michigan.

Orhan C. Tuncay, Professor, Department of Orthodontics, Kornberg School of Dentistry; D.M.D.

Eugene J. Whitaker, Associate Professor Emeritus, Department of Restorative Dentistry, Kornberg School of Dentistry; D.M.D.

Jie Yang, Professor, Department of Oral Maxillofacial Pathology, Medicine and Surgery, Kornberg School of Dentistry; D.M.D., Temple University.

Maobin Yang, Assistant Professor, Department of Endodontology, Kornberg School of Dentistry; Ph.D., University of Connecticut.

Oral Biology, M.S.

KORNBERG SCHOOL OF DENTISTRY (http://dentistry.temple.edu)

About the Program

The M.S. in Oral Biology program is limited to candidates who have been accepted to a postdoctoral dental specialty program at Temple University’s Kornberg School of Dentistry. Many of the application requirements for the master’s in Oral Biology program can be submitted in conjunction with the PASS application for dental specialty training. Information regarding dental specialty programs at the Kornberg School of Dentistry can be obtained at http://dentistry.temple.edu/.

The M.S. in Oral Biology provides advanced education on the structure, development, and function of oral tissues, their interrelationships, and their relation to other organ systems in both health and disease. Emphasis is placed on gaining advanced understanding of oral and craniofacial structure and function in health and disease, and application of modern biological principles and research techniques in the diagnosis,
treatment, and prevention of oral and craniofacial diseases and anomalies. The goals of the M.S. in Oral Biology program are to:

- advance knowledge and understanding in the scientific field of oral and craniofacial biology;
- develop "clinical scholars" in dentistry by allowing those in postdoctoral clinical specialty programs the opportunity to gain graduate-level education in a biological basic science field applicable to dentistry; and
- provide dentists with graduate-level training and experience in research methodology and technology to better qualify them for careers in academic dentistry and/or industry-related oral health activities.

**Time Limit for Degree Completion:** Variable, depending on affiliated specialty program

**Campus Location:** Health Sciences

**Full-Time/Part-Time Status:** Students complete the M.S. degree program in conjunction with their specialty certificate program. All specialty certificate programs are full-time.

**Interdisciplinary Study:** The curriculum of the Oral Biology M.S. program is interdisciplinary and crosses traditional department boundaries within Dentistry and basic biomedical sciences, such as Anatomy, Microbiology, Pharmacology, and Physiology.

**Areas of Specialization:** Areas of study in the Oral Biology M.S. program include traditional basic biomedical science disciplines, such as Anatomy, Microbiology, Pharmacology, and Physiology, with emphasis on how these areas relate to oral tissues and diseases. Study and research opportunities are offered in a variety of areas, including, but not limited to, Dental Biomaterials, Oral Implantology, Oral and Maxillofacial Radiology, Oral Microbiology and Immunology, Oral Molecular Biology, Oral Mucosal Disorders, Periodontal and Craniofacial Regeneration, Pulp Biology, and various clinical specialty fields.

**Job Prospects:** Graduates of the M.S. in Oral Biology degree program are engaged in academic teaching and research careers, private clinical patient care, and industry-related oral health activities.

**Non-Matriculated Student Policy:** Coursework may not be taken on a non-matriculated basis.

**Financing Opportunities:** Contact the Office of Graduate Education in the Kornberg School of Dentistry for information.

### Admission Requirements and Deadlines

**Application Deadline:** Applications for the M.S. in Oral Biology are processed through Kornberg School of Dentistry's Office of Graduate Education throughout the year as they are received.

**Letters of Reference:**

- Number Required: 2
- From Whom: Letters of recommendation should be obtained from dental school faculty members familiar with the applicant's academic background and potential for graduate-level study.

### Program Requirements

#### General Program Requirements:

- **Number of Didactic Credits Required Beyond the D.D.S. (or equivalent):** 18
- **Additional Credits Required, including Research and Original Thesis, as described below:** up to 12

#### Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>ORBG 8011</td>
<td>Molecular Oral and Craniofacial Biology</td>
<td>1</td>
</tr>
<tr>
<td>ORBG 8012</td>
<td>Advanced Dental Pharmacology and Therapeutics</td>
<td>1</td>
</tr>
<tr>
<td>ORBG 8013</td>
<td>Introduction to Evidence-Based Dentistry</td>
<td>1</td>
</tr>
<tr>
<td>ORBG 8014</td>
<td>Clinical Anatomy of the Head and Neck</td>
<td>1</td>
</tr>
<tr>
<td>ORBG 8015</td>
<td>Research Methodology and Study Design</td>
<td>1</td>
</tr>
<tr>
<td>ORBG 8016</td>
<td>Cases in Oral and Maxillofacial Pathology</td>
<td>1</td>
</tr>
<tr>
<td>ORBG 8017</td>
<td>Oral Microbiology and Immunology</td>
<td>1</td>
</tr>
<tr>
<td>ORBG 8018</td>
<td>Biostatistics</td>
<td>1</td>
</tr>
<tr>
<td>ORBG 8019</td>
<td>Advanced Oral and Maxillofacial Radiology</td>
<td>1</td>
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</tbody>
</table>

Additional courses specific to the interests of the student may include: 1

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>ENDG 8111</td>
<td>Pain in Dentistry: Diagnosis and Control</td>
<td></td>
</tr>
<tr>
<td>ENDG 8112</td>
<td>Pulp Biology I</td>
<td></td>
</tr>
<tr>
<td>ENDG 8113</td>
<td>Periapical Biology I</td>
<td></td>
</tr>
<tr>
<td>ENDG 8114</td>
<td>Biologic Basis of Disease</td>
<td></td>
</tr>
<tr>
<td>ENDG 8116</td>
<td>Endodontic Microbiology/Immunology</td>
<td></td>
</tr>
<tr>
<td>ENDG 8130</td>
<td>Current Endodontics Literature Review</td>
<td></td>
</tr>
<tr>
<td>ENDG 8140</td>
<td>Classical Endodontics Literature Review</td>
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<tr>
<td>ORTG 8400</td>
<td>Diagnosis and Treatment Planning Conference</td>
<td></td>
</tr>
<tr>
<td>ORTG 8404</td>
<td>Orthodontic Biomechanics</td>
<td></td>
</tr>
<tr>
<td>ORTG 8407</td>
<td>History of Orthodontics</td>
<td></td>
</tr>
<tr>
<td>ORTG 8408</td>
<td>Craniofacial Cephalometrics</td>
<td></td>
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<tr>
<td>ORTG 8410</td>
<td>Current Literature Review</td>
<td></td>
</tr>
<tr>
<td>ORTG 8414</td>
<td>Growth and Development of the Craniofacial Complex</td>
<td></td>
</tr>
<tr>
<td>PERG 8302</td>
<td>Biology and Pathology of the Periodontium</td>
<td></td>
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</tbody>
</table>
### Schools, Colleges, and Divisions

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PERG 8306</td>
<td>Introduction to Oral Implantology</td>
</tr>
<tr>
<td>PERG 8307</td>
<td>Advanced Periodontal Microbiology and Immunology</td>
</tr>
<tr>
<td>PERG 8320</td>
<td>Current Periodontal Literature Review</td>
</tr>
<tr>
<td>PERG 8340</td>
<td>Oral Implantology Literature Review</td>
</tr>
<tr>
<td>PERG 9487</td>
<td>Oral Pathology Laboratory Rotation</td>
</tr>
</tbody>
</table>

**Total Credit Hours:** 18

1. Graduate-level courses from other Temple University schools/colleges may also be taken with the approval of the Kornberg School of Dentistry's Associate Dean for Graduate Education.

### Culminating Events:

#### Thesis:
A thesis based on original investigation must be submitted and orally defended. The thesis is intended to demonstrate the student's ability to design and carry out original research, and to analyze, present, and interpret the resulting data under the direct supervision of an approved research preceptor. The thesis must address a well-focused, scientifically meaningful question and hypothesis that is of adequate scope and significance to qualify for an M.S. degree.

The date and location of a student's oral thesis defense is arranged by mutual agreement between the student and the Thesis Advisory Committee, which includes the student's research preceptor. Announcements of the thesis defense are posted at the Kornberg School of Dentistry.

The student's Thesis Advisory Committee is responsible for evaluating the thesis and its oral defense. The Thesis Advisory Committee is selected in conjunction with the approved research preceptor, who serves as the committee chair. The research preceptor must be a member of the Oral Biology graduate faculty, and approved by the Chair of the student's home academic department at the Kornberg School of Dentistry. The Thesis Advisory Committee must include at least one member (including the research preceptor) of the student's home academic department at the School of Dentistry, plus at least one outside member. The one outside member may include Temple University faculty from other departments and/or experts from outside the University. In addition, the Associate Dean for Graduate Education may serve as ex-officio member of the Thesis Advisory Committee. The majority of the members of the Thesis Advisory Committee must be members of the Oral Biology graduate faculty.

### Contacts

#### School Web Address:
http://dentistry.temple.edu/

#### Department Information:
Oral Biology Graduate Program  
Kornberg School of Dentistry  
Office of Graduate Education  
3223 N. Broad Street  
Philadelphia, PA 19140  
grace.dean@temple.edu  
215-707-3305  
Fax: 215-707-0042

#### Mailing Address for Application Materials:
Oral Biology Graduate Program
College of Education

The College of Education at Temple University promotes education – in schools, in the workplace, in organizations, and in the community – as a critically important way to achieve social justice. Our mission is to prepare our students to become agents of change who employ cutting-edge understandings and evidence-based practices in any setting in which they might work. Our faculty include experts not only in early childhood/elementary, middle-grades, and secondary teacher education, but also in adult and organizational development, applied behavior analysis, career and technical education, counseling psychology, higher education, leadership, school psychology, special education, teaching English to speakers of other languages, and urban education.

In our research, we work both to conduct well-designed investigations that have the potential to improve learning and teaching, especially for historically underserved populations, and to provide effective mentorship of master’s and doctoral students so that they can engage in similar kinds of investigations on their own. In our teaching, we strive to infuse empirical findings into our coursework in ways that provide practitioners and prospective practitioners with deep understandings of research and theory and of effective practice. As a result of our strategic location in North Philadelphia and our long history of collaboration with the School District of Philadelphia and other community partners, the College of Education is uniquely situated to bring its research and teaching into practice in order to have a collective impact in the surrounding neighborhoods. We also endeavor to bring our work to the largest possible audience in the city of Philadelphia, the region, and the nation, as well as globally.

Programs

Degree Programs and Certificates

- Accomplished Teaching, M.S.Ed. (p. 376)
- Adult and Organizational Development, M.Ed. (p. 377)
- Applied Behavior Analysis, M.S.Ed. (p. 379)
- Career and Technical Education, M.S.Ed. (p. 381)
- Career and Technical Education/Business, Computer and Information Technology, M.Ed. (p. 382)
- Career and Technical Education/Industrial Education, M.Ed. (p. 383)
- Career and Technical Education/Marketing Education, M.Ed. (p. 385)
- Counseling Psychology, M.Ed. (p. 386)
- Counseling Psychology, Ph.D. (p. 388)
- Early Childhood Education, M.Ed. (p. 388)
- Early Childhood Education and Special Education, M.Ed. (p. 389)
- Education/Applied Linguistics, Ph.D. (p. 391)
- Education/Educational Psychology, Ph.D. (p. 393)
- Education/Literacy and Learners, Ph.D. (p. 395)
- Education/Science, Mathematics and Educational Technology, Ph.D. (p. 397)
- Education/Special Education, Ph.D. (p. 399)
- Educational Leadership, M.Ed. (p. 401)
- Educational Leadership, Ed.D. (p. 401)
- Educational Psychology, M.Ed. (p. 403)
- Educational Psychology/Learning Technology, M.Ed. (p. 405)
- Higher Education, M.Ed. (p. 405)
- Middle Grades Education/Language Arts, M.Ed. (p. 409)
- Middle Grades Education/Mathematics, M.Ed. (p. 411)
- Middle Grades Education/Mathematics and Language Arts, M.Ed. (p. 413)
- Middle Grades Education/Mathematics and Science, M.Ed. (p. 415)
- Middle Grades Education/Science, M.Ed. (p. 417)
- Middle Grades Education/Science and Language Arts, M.Ed. (p. 418)
- Middle Grades Education/Social Studies, M.Ed. (p. 420)
- Middle Grades and Special Education/Language Arts, M.Ed. (p. 422)
- Middle Grades and Special Education/Mathematics, M.Ed. (p. 424)
- Middle Grades and Special Education/Mathematics and Language Arts, M.Ed. (p. 426)
- Middle Grades and Special Education/Mathematics and Science, M.Ed. (p. 428)
- Middle Grades and Special Education/Science, M.Ed. (p. 430)
- Middle Grades and Special Education/Science and Language Arts, M.Ed. (p. 432)
- Middle Grades and Special Education/Social Studies, M.Ed. (p. 434)
- Policy and Organizational Studies, Ph.D. (p. 436)
- School Leadership/Curriculum Supervision, M.Ed. (p. 438)
- School Leadership/Principal Leadership, M.Ed. (p. 439)
- School Leadership/Reform and Change Leadership, M.Ed. (p. 441)
- School Psychology, Ed.S. (p. 442)
- School Psychology, Ph.D. (p. 444)
- Secondary Education/English Education, M.Ed. (p. 447)
- Secondary Education/Mathematics Education, M.Ed. (p. 448)
- Secondary Education/Science Education, M.Ed. (p. 450)
- Secondary Education/Social Studies Education, M.Ed. (p. 451)
- Secondary Education / World/Foreign Languages Education, M.Ed. (p. 453)
- Secondary Education and Special Education/English Education, M.Ed. (p. 455)
- Secondary Education and Special Education/Mathematics Education, M.Ed. (p. 457)
- Secondary Education and Special Education/Science Education, M.Ed. (p. 458)
- Secondary Education and Special Education/Social Studies Education, M.Ed. (p. 460)
- Secondary Education and Special Education / World/Foreign Languages Education, M.Ed. (p. 462)
- Special Education, M.Ed. (p. 464)
- Teacher Leadership, M.Ed. (p. 466)
- Teaching English to Speakers of Other Languages (TESOL), M.S.Ed. (p. 466)
- Urban Education, M.Ed. (p. 467)
- Urban School Leadership, M.Ed. (p. 469)
- Graduate Certificate: Applied Behavior Analysis (p. 470)
- Graduate Certificate: Autism Endorsement (p. 471)
- Graduate Certificate: College Access and Success (p. 473)
- Graduate Certificate: Conflict Process (p. 474)
• Graduate Certificate: Data-Driven Decision Making (p. 474)
• Graduate Certificate: Digital Education Leadership (p. 475)
• Graduate Certificate: Disability Studies (p. 476)
• Graduate Certificate: Diversity Leadership (p. 478)
• Graduate Certificate: English as a Second Language (p. 479)
• Graduate Certificate: English Language Teaching (p. 480)
• Graduate Certificate: Institutional Effectiveness (p. 481)
• Graduate Certificate: Instructional Learning Technology (p. 482)
• Graduate Certificate: Student Affairs Leadership (p. 483)
• Graduate Certificate: Training and Organizational Development (p. 485)
• Graduate Certificate: Urban Education (p. 486)

Certificates Not Currently Open for Enrollment

• Career and Technical Education/K-12
• English Education/7-12
• Instructional Coaching Endorsement
• Mathematics Education/7-12
• Middle Grades Education/4-8
• Science Education/7-12
• Social Studies Education/7-12
• World/Foreign Languages Education/K-12

Graduate Faculty

Gregory Anderson, Professor, Department of Policy, Organizational, and Leadership Studies, College of Education; Ph.D., City University of New York.

Janelle M. Bailey, Assistant Professor, Department of Teaching and Learning, College of Education; Ph.D., University of Arizona.

Julie L. Booth, Associate Professor, Department of Teaching and Learning, College of Education; Ph.D., Carnegie Mellon University.

Joseph Boyle, Associate Professor, Department of Teaching and Learning, College of Education; Ph.D., University of Kansas.

Carol B. Brandt, Associate Professor, Department of Teaching and Learning, College of Education; Ph.D., University of New Mexico.

Wanda M. Brooks, Associate Professor, Department of Teaching and Learning, College of Education; Ed.D., University of Pennsylvania.

James P. Byrnes, Professor, Department of Psychological Studies in Education, College of Education; Ph.D., Temple University.

Sarah A. Cordes, Assistant Professor, Department of Policy, Organizational, and Leadership Studies, College of Education; Ph.D., New York University.

Maia Bloomfield Cucchiara, Associate Professor, Department of Policy, Organizational, and Leadership Studies, College of Education; Ph.D., University of Pennsylvania.

James Earl Davis, Professor, Department of Policy, Organizational, and Leadership Studies, College of Education; Ph.D., Cornell University.

Meixia Ding, Associate Professor, Department of Teaching and Learning, College of Education; Ph.D., Texas A and M University.

Joseph P. DuCette, Professor, Department of Psychological Studies in Education, College of Education; Ph.D., Cornell University.

Richard M. Englert, Professor, Department of Policy, Organizational, and Leadership Studies, College of Education; Ed.D., University of California Los Angeles.

Armando X. Estrada, Assistant Professor, Department of Policy, Organizational, and Leadership Studies, College of Education; Ph.D., University of Texas at El Paso.

Frank H. Farley, Professor, Department of Psychological Studies in Education, College of Education; Ph.D., University of London.

Edward Fergus, Assistant Professor, Department of Policy, Organizational, and Leadership Studies, College of Education; Ph.D., University of Michigan.

Catherine A. Fiorello, Professor, Department of Psychological Studies in Education, College of Education; Ph.D., University of Kentucky.

Timothy P. Fukawa-Connelly, Associate Professor, Department of Teaching and Learning, College of Education; Ph.D., University of Maryland.

Allison Gilmour, Assistant Professor, Department of Teaching and Learning, College of Education; Ph.D., Vanderbilt University.

Sara Goldrick-Rab, Professor, Department of Policy, Organizational, and Leadership Studies, College of Education; Ph.D., University of Pennsylvania.

John Hall, Assistant Professor, Department of Policy, Organizational, and Leadership Studies, College of Education; Ph.D., University of California Berkeley.

Insook Han, Assistant Professor, Department of Teaching and Learning, College of Education; Ed.D., Columbia University, Teachers College.

Annemarie H. Hindman, Associate Professor, Department of Teaching and Learning, College of Education; Ph.D., University of Michigan.

Will J. Jordan, Associate Professor, Department of Policy, Organizational, and Leadership Studies, College of Education; Ph.D., Columbia University, Teachers College.

Avshalom Kaplan, Associate Professor, Department of Psychological Studies in Education, College of Education; Ph.D., University of Michigan.

Larry J. Krafft, Professor, Department of Policy, Organizational, and Leadership Studies, College of Education; Ph.D., Michigan State University.

Janice C. Laurence, Professor, Department of Policy, Organizational, and Leadership Studies, College of Education; Ph.D., George Mason University.
Doug Lombardi, Associate Professor, Department of Teaching and Learning, College of Education; Ph.D., University of Nevada, Las Vegas.

Sabina Neugebauer, Assistant Professor, Department of Teaching and Learning, College of Education; Ed.D., Harvard University.

Kristie Jones Newton, Associate Professor, Department of Teaching and Learning, College of Education; Ph.D., University of Maryland College Park.

Timothy J. Patterson, Assistant Professor, Department of Teaching and Learning, College of Education; Ph.D., Columbia University, Teachers College.

Laura Pendergast, Associate Professor, Department of Psychological Studies in Education, College of Education; Ph.D., The Pennsylvania State University.

Lia E. Sandilos, Assistant Professor, Department of Psychological Studies in Education, College of Education; Ph.D., The Pennsylvania State University.

Jayminn S. Sanford-DeShields, Associate Professor, Department of Teaching and Learning, College of Education; Ed.D., Harvard University.

Kenneth G. Schaefer, Professor, Department of Teaching and Learning, College of Education; Ph.D., Columbia University.

W. Joel Schneider, Associate Professor, Department of Psychological Studies in Education, College of Education; Ph.D., Texas A and M University.

Michael W. Smith, Professor, Department of Teaching and Learning, College of Education; Ph.D., University of Chicago.

S. Kenneth Thurman, Professor, Department of Teaching and Learning, College of Education; Ph.D., The Ohio State University.

Matthew J. Tincani, Professor, Department of Teaching and Learning, College of Education; Ph.D., The Ohio State University.

Renee M. Tobin, Professor, Department of Psychological Studies in Education, College of Education; Ph.D., Texas A and M University.

Matthew J. Elvis Wagner, Associate Professor, Department of Teaching and Learning, College of Education; Ed.D., Columbia University, Teachers College.

Barbara A. Wasik, Professor, Department of Psychological Studies in Education, College of Education; Ph.D., Temple University.

Christine A. Woyshner, Professor, Department of Teaching and Learning, College of Education; Ed.D., Harvard University.

Accomplished Teaching, M.S.Ed.

COLLEGE OF EDUCATION (https://education.temple.edu)

Learn more about the Master of Science in Education in Accomplished Teaching (https://www.temple.edu/academics/degree-programs/accomplished-teaching-msed-ed-atch-msed).

About the Program

The Master of Science in Education program in Accomplished Teaching enables working teachers, both relatively new practitioners and veterans, to develop new knowledge and to reflect on and analyze their own practices in order to move their teaching to a higher level. A combination of core courses and electives supports and advances those who have chosen to make classroom teaching their profession while allowing them to explore individual interests and additional certifications. Courses are designed to meet the immediate needs of students and to be directly applicable to students’ home schools and communities.

Time Limit for Degree Completion: 4 years

Campus Location: Main, with some courses offered online.

Full-Time/Part-Time Status: Students complete the degree program through classes offered after 4:30 p.m. The degree program can be completed on a full- or part-time basis.

Job Prospects: Graduates are typically educators in current positions of teaching and leadership. This program is designed to enhance credentials and expand educators’ knowledge and expertise.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2, with a third submitted at the applicant’s discretion. Please submit the “Reference Report for Graduate Study,” found at http://www.temple.edu/grad/admissions/documents/Web_GRAD_REFERENCE_REPORT.pdf.

From Whom: Letters of recommendation should be obtained from school administrators or college/university faculty members who can provide insight into the applicant’s academic competence.

Coursework Required for Admission Consideration: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University. Official undergraduate and graduate transcripts from all accredited institutions attended are required, as well as a copy of a valid PA Teaching Certification or demonstration of at least two years of successful practice in an educational setting.

Bachelor’s Degree in Discipline/Related Discipline: A bachelor’s degree is required. Applicants who do not meet the 3.0 UGPA requirement may be considered for admission if they meet one of the following exceptions:
1. **Standard exception**: 3.5 UGPA during the last two years AND a minimum of 3.25 Graduate GPA for 9 credits (typically taken as a non-matriculated student in the program prior to application for admission).

2. **Special exception**: Applicants who do not meet regular admission criteria may be considered for a special exception if a compelling case can be made for admission on the basis of some additional source of data.

**Statement of Goals**: In 500 to 1,000 words, outline your interest in seeking a degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

**Standardized Test Scores**: TOEFL score (international applicants only): 88 iBT or 575 PBT minimum. Applicants with scores between 88 and 100 iBT or between 575 and 600 PBT must take an English refresher course.

**Resume**: Current resume required.

## Program Requirements

### General Program Requirements:
**Number of Credits Required Beyond the Baccalaureate**: 30

### Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 5254</td>
<td>Characteristics of Computer-Based Instruction</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 8251</td>
<td>Teacher Development: The Reflective Teacher</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 8252</td>
<td>Cultural Diversity and Learning Styles</td>
<td>3</td>
</tr>
<tr>
<td>EPSY 5529</td>
<td>Tests and Measurements</td>
<td>3</td>
</tr>
</tbody>
</table>

### Electives
Select five courses taken within or outside the College of Education.

**Capstone Course**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 8289</td>
<td>Capstone Seminar Cur Iss</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours 30


**Culminating Events**

**Capstone Course:** Students complete a program portfolio or program project as part of EDUC 8289.

## Contacts

**Program Web Address:**
https://www.temple.edu/academics/degree-programs/accomplished-teaching-msed-ed-atch-msed

**Department Information:**
Dept. of Teaching and Learning
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

**Submission Address for Application Materials:**
http://apply.temple.edu/coe

**Department Contacts:**

**Admissions:**
Office of Enrollment Management
educate@temple.edu
215-204-0999

## Adult and Organizational Development, M.Ed.

**COLLEGE OF EDUCATION** (https://education.temple.edu)


### About the Program

The master’s program in Adult and Organizational Development prepares students for professional positions in the fields of adult learning and organizational development. Temple’s program supports professionals whose work focuses on facilitating developmental changes in individuals, teams, and organizations.

Coursework draws from social science theory and research to develop students’ diagnostic and intervention skills in the areas of adult learning, conflict intervention, conflict management, group decision making, strategic communication, systems perspectives, team development, and training design. Classroom instruction and assignments draw heavily on students’ professional experience and are aimed at developing applied intervention strategies that are useful in diverse workplace settings.

The program in Adult and Organizational Development encourages applications from students who work in a wide range of settings, including educational institutions, businesses, consulting agencies, healthcare institutions, governmental and community organizations, and non-profit groups.

Graduates of the program pursue careers in human resource management, training and adult development, organizational...
management, consulting, community organizing, and conflict intervention and mediation.

**Time Limit for Degree Completion:** 4 years

**Campus Location:** Center City

**Full-Time/Part-Time Status:** Students complete the degree program through classes offered after 4:30 p.m. and on weekends. One weekend class (AOD 9231 Proseminar in AOD) is required. The degree program can be completed on a full- or part-time basis.

**Interdisciplinary Study:** The program has a strong interdisciplinary focus. Students are encouraged to take courses throughout the University, especially in communication sciences, counseling psychology, educational psychology, human resource administration, and instructional technology. In addition, the program concentrates on applications in a wide variety of educational settings: formal and informal, public and private, schools and industries, and the like.

**Accreditation:** The program is listed with the Association for Talent Development (ATD) and the Organizational Development Network (OD Network).

**Areas of Specialization:** The program features coursework in three areas:

- Adult Learning and Training, which concentrates on developing and teaching instructional/training programs for adult personal and professional development;
- Organizational and Team Development, which develops assessment, planning, facilitation, and consulting skills to help teams and organizations design and implement change; and
- Conflict Management and Dispute Resolution, which involves developing models and best practices for positive conflict cultures and third-party interventions.

**Job Prospects:** Graduates typically pursue careers in large private and public organizations; firms that specialize in training/organizational development and conflict resolution; adult education centers; and independent practice.

**Non-Matriculated Student Policy:** Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. **Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.**

**Financing Opportunities:** Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

**Letters of Reference:**
**Number Required:** 2

**From Whom:** Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

**Bachelor's Degree in Discipline/Related Discipline:** A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

**Statement of Goals:** In 500 to 1,000 words, outline your interest in seeking a master's degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

**Standardized Test Scores:**
Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

- **TOEFL:** 79 iBT or 550 PBT
- **IELTS:** 6.5
- **PTE Academic:** 53

**Resume:** Current resume required.

**Other Requirement:** Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

### Program Requirements

**General Program Requirements:**
**Number of Credits Required Beyond the Baccalaureate:** 36, including 12 credits of core courses, 15 credits of AOD electives, 6 credits of non-AOD electives, and a 3-credit capstone course.

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AOD 5401</td>
<td>System Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>AOD 5402</td>
<td>Communication and Conflict</td>
<td>3</td>
</tr>
<tr>
<td>AOD 5403</td>
<td>Facilitating Adult Learning</td>
<td>3</td>
</tr>
<tr>
<td>AOD 5404</td>
<td>Organizational Communication</td>
<td>3</td>
</tr>
</tbody>
</table>

**Electives**
Select at least five electives in AOD from the following: 15

- AOD 5515 | Conflict Resolution in Education |
- AOD 5516 | Negotiation Processes           |
- AOD 5518 | Third-Party Conflict Intervention|
- AOD 5522 | Interpersonal Skills Training   |
- AOD 5524 | Sociocultural Dynamics          |
- AOD 5527 | Training Design and Delivery    |
- AOD 5532 | Leadership and Management       |
- AOD 5533 | Team Development                |

**Application Deadline:**

- **Fall:** March 1
- **Spring:** November 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

**APPLY ONLINE** to this graduate program.
AOD 5534  Group Facilitation and Consultation
AOD 5535  Organizational Assessment, Design and Strategy
AOD 5540  Current Topics in AOD
Non-AOD electives  6
**Capstone Course**
AOD 9231  Proseminar in AOD  3

**Total Credit Hours**  36

### Culminating Events:

**Capstone Course Sequence (AOD 9231 Proseminar in AOD):**
The capstone course is a proseminar. In the first part of the seminar, students are assigned to groups that function as consulting teams, working on cases, simulations, and/or general questions provided by the faculty. The second part of the seminar is devoted to having students identify, develop, and complete individual learning projects. The seminar concludes with a session in which AOD faculty provide feedback to students. The evaluation is based both on group and individual performance. The capstone course must be taken in the last term of a student's coursework and after completion of the four required AOD core courses. Students can take only one other elective course while they are enrolled in the capstone course.

### Contacts

**Program Web Address:**

**Department Information:**
Dept. of Policy, Organizational and Leadership Studies
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

**Submission Address for Application Materials:**
http://apply.temple.edu/coe

**Department Contacts:**

**Admissions:**
Office of Enrollment Management
educate@temple.edu
215-204-0999

### Applied Behavior Analysis, M.S.Ed.

**COLLEGE OF EDUCATION** (https://education.temple.edu)

Learn more about the Master of Science in Education in Applied Behavior Analysis (https://www.temple.edu/academics/degree-programs/applied-behavior-analysis-msed-ed-aba-msed).

### About the Program

The Master of Science in Education program in Applied Behavior Analysis trains students to apply the principles of learning and behavior to influence behavior change that is significant to society. Students learn how to systematically change behavior by analyzing related environmental variables and applying interventions based on the principles of behavior science. Behavior analysts have improved a wide range of everyday issues, including enhancing staff performance, improving public safety initiatives, teaching effective parenting skills, treating problem behavior in children, improving general and special education teaching strategies, rehabilitating individuals who abuse substances, and more. This program fulfills the degree and coursework requirements and partially fulfills the supervised experience requirement for the Board Certified Behavior Analyst® (BCBA®) credential.

Graduates of the Applied Behavior Analysis M.S.Ed. program help fill the growing demand for individuals with applied behavior analytic training in social service agencies and educational institutions, particularly in service of individuals with autism and other intellectual and developmental disabilities. The Applied Behavior Analysis graduate degree also prepares educators, clinicians, and other helping professionals to understand and implement interventions to address skill deficits and performance issues or problem behavior. Graduates of the program have a diverse set of skills, including the ability to analyze environmental variables affecting behavior, create individualized interventions, and assess the effectiveness of interventions to inform data-based decisions on modification and continuation.

**Time Limit for Degree Completion:** 4 years

**Campus Location:** Main, with some courses offered at off-site locations

**Full-Time/Part-Time Status:** Students complete the degree program through classes offered after 4:30 p.m. The degree program can be completed on a full- or part-time basis.

**Interdisciplinary Study:** The interdisciplinary Applied Behavior Analysis M.S.Ed. program blends courses in education and psychology. Courses are taught by faculty with top academic credentials and experience as practitioners.

**Accreditation:** The degree program includes a course sequence verified by the Behavior Analyst Certification Board (BACB®).

**Job Prospects:** Graduates are prepared for professional careers in a variety of environments, particularly in social service agencies and educational institutions.

**Licensure:** Coursework may apply toward earning the Behavior Specialist license from the Commonwealth of Pennsylvania.

**Non-Matriculated Student Policy:** Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. **Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.**

**Financing Opportunities:** Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

### Admission Requirements and Deadlines

**Application Deadline:**
*Fall: March 1*
Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: In 500 to 1,000 words, outline your interest in seeking a master's degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores:
Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

- TOEFL: 79 iBT or 550 PBT
- IELTS: 6.5
- PTE Academic: 53

Interview: An interview with the faculty admissions committee may be required after a complete application is received.

Resume: Current resume required.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Credits Earned in a Certificate Program: Students who choose to enroll in the M.S.Ed. program may have up to 12 credits earned for either the Applied Behavior Analysis Certificate (https://www.temple.edu/academics/degree-programs/applied-behavior-analysis-certificate-graduate-ed-aba-grad) or Autism Endorsement Certificate (https://www.temple.edu/academics/degree-programs/autism-endorsement-certificate-graduate-ed-aten-grad) applied to the M.S.Ed. upon acceptance into the program. Completion of a certificate program does not guarantee admission into the master's program, and students who are accepted may have to complete more than 33 credits to meet all requirements of the master's program. Students currently enrolled in a certificate program and considering matriculation into a master's program are encouraged to apply as early as possible.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 33

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABA 5302</td>
<td>Students with Autism Spectrum Disorders: Effective Teaching Strategies</td>
<td>3</td>
</tr>
<tr>
<td>ABA 5303</td>
<td>Ethics and Applied Behavior Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ABA 5304</td>
<td>Concepts and Principles of Behavior Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ABA 5305</td>
<td>Single Subject Research Design</td>
<td>3</td>
</tr>
<tr>
<td>ABA 5306</td>
<td>Organizational Behavior Management - OBM</td>
<td>3</td>
</tr>
<tr>
<td>ABA 5307</td>
<td>Experimental Analysis of Behavior - EAB</td>
<td>3</td>
</tr>
<tr>
<td>ABA 5676</td>
<td>Applied Behavior Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ABA 8787</td>
<td>Seminar on Verbal Behavior</td>
<td>3</td>
</tr>
</tbody>
</table>

Practica 1

ABA 9387 | Practicum in Applied Behavior Analysis                                 | 6            |

Master's Thesis

EDUC 9996 | Thesis Credits: Masters                                                | 3            |

Total Credit Hours 33

1 Students are required to take two 150-hour practica for 3 credits each: ABA 9387 Practicum in Applied Behavior Analysis. Acceptable practicum sites are those engaged in applied behavior analysis practice/research with the ability to provide ongoing supervision to students in the discipline. A list of approved sites is available, although other sites can be approved by the program.

Culminating Events:

Master's Thesis:
Students are required to conduct a rigorous behavior-analytic project in EDUC 9996 Thesis Credits: Masters. They write a report in publication format and then present the project and its findings in a formal defense before program faculty.

Contacts

Program Web Address: http://education.temple.edu/aba

Department Information:
Dept. of Teaching and Learning
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
edaba@temple.edu
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
Admissions:
Office of Enrollment Management
educate@temple.edu
215-204-0999
Career and Technical Education, M.S.Ed.

COLLEGE OF EDUCATION (http://education.temple.edu)


About the Program

The mission of the Master of Science in Education program in Career and Technical Education is to enable its students to apply advanced pedagogical skills, knowledge, and attributes in a career and technical education setting at the secondary and post-secondary levels. Individuals pursuing this degree already hold instructional or vocational certification in Pennsylvania. While pursuing this online degree, individuals pursue Pennsylvania certification in cooperative education, supervision of vocational education, and director of vocational education. The degree provides specialized knowledge in areas of workforce development, leadership, industry trends and issues, the role of workforce development in a dynamic economy, and infusing industry standards into secondary career and technical education programs.

Time Limit for Degree Completion: 4 years

Campus Location: Online

Full-Time/Part-Time Status: Students complete the degree program online on a full- or part-time basis.

Accreditation: The program is accredited by the Teacher Education Accreditation Council (TEAC).

Job Prospects: Graduates are prepared for leadership roles as teachers, adult instructors, curriculum specialists, career and technical center administrators, and technical trainers in business and industry.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. **Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.**

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:

*Fall: March 1*
*Spring: November 1*

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

**APPLY ONLINE to this graduate program.**

Letters of Reference:

**Number Required: 2**

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

Bachelor's Degree in Discipline/Related Discipline: A bachelor’s degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: In 500 to 1,000 words, outline your interest in seeking a master’s degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores:

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

- **TOEFL:** 79 iBT or 550 PBT
- **IELTS:** 6.5
- **PTE Academic:** 53

Resume: Current resume required.

Other Requirements:

1. Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned
2. A copy of a valid Pennsylvania Teaching Certification or demonstration of at least three years of successful practice in an educational setting

Program Requirements

General Program Requirements:

**Number of Credits Required Beyond the Baccalaureate: 30**

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTE 5423</td>
<td>Leadership in Career and Technical Education</td>
<td>3</td>
</tr>
<tr>
<td>CTE 8501</td>
<td>Curriculum Development for Programs of Study in</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Career and Technical Education</td>
<td></td>
</tr>
<tr>
<td>CTE 8507</td>
<td>The Role of Career and Technical Education in</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Workforce and Economic Development</td>
<td></td>
</tr>
<tr>
<td>CTE 8521</td>
<td>Collaborative Processes for Effective Career and</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Technical Education Programs</td>
<td></td>
</tr>
<tr>
<td>CTE 8527</td>
<td>Program Planning, Evaluation, and Systems</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Alignment in Career and Technical Education</td>
<td></td>
</tr>
<tr>
<td>CTE 8528</td>
<td>Creating a Culture of Teaching and Learning in</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Career and Technical Education Programs</td>
<td></td>
</tr>
<tr>
<td>CTE 8589</td>
<td>Managing Resources and Data Driven Decision</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Making in Career and Technical Education Programs</td>
<td></td>
</tr>
<tr>
<td>EDAD 5302</td>
<td>Contexts for Sch Reform</td>
<td>3</td>
</tr>
<tr>
<td>EDAD 5305</td>
<td>Knowledge Sch Improve</td>
<td>3</td>
</tr>
</tbody>
</table>
or EDAD 5304 Sch Operations, Mgmt, Tech

Practicum
CTE 9885 Internship in Career and Technical Education 3

Total Credit Hours 30

1 All ten courses must be completed to earn Pennsylvania Department of Education certification for Vocational Administrative Director.
2 Successful completion of this set of five courses leads to Pennsylvania Department of Education certification for Vocational Supervisor.

Culminating Events:
Practicum:
Students must complete CTE 9885 Internship in Career and Technical Education to satisfy the practicum requirement.

Contacts
Program Web Address:

Department Information:
Dept. of Teaching and Learning
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
Admissions:
Office of Enrollment Management
educate@temple.edu
215-204-0999

Career and Technical Education/ Business, Computer and Information Technology, M.Ed.

COLLEGE OF EDUCATION (http://education.temple.edu)


About the Program
The mission of the Career and Technical Education master’s program with a concentration in Business, Computer and Information Technology is to enable its students to become effective teachers in all of the business domains typically taught in K-12 schools, including computer and information technology; law, entrepreneurship, and international business; quantitative skills and accounting; management and marketing concepts; economics and personal finance; and business communications. Individuals completing the program find success in K-12 teaching, post-secondary teaching in community colleges, and business skills training.

Time Limit for Degree Completion: 4 years

Campus Location: Main, Fort Washington

Full-Time/Part-Time Status: Students complete the degree program through classes offered after 4:30 p.m. The degree program can be completed on a full- or part-time basis.

Accreditation: The program is approved as a teacher certification program by the Pennsylvania Department of Education and is accredited by the Teacher Education Accreditation Council (TEAC).

Job Prospects: Graduates typically continue in their established career paths as career and technical educators, work-force development professionals, and technical trainers in business and industry.

Licensure: Upon successful completion of the degree requirements and passing all required licensure examinations, candidates may apply for a Pennsylvania Instructional I Teaching Certificate.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines
Application Deadline:
Fall: March 1
Spring: November 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

Coursework Required for Admission Consideration: Prerequisites for admission to the Career and Technical Education M.Ed. program include courses taken at the undergraduate level with a grade of "C" or better earned in the following areas:

• At least 6 credits of college-level mathematics.
• At least 6 credits of college-level English composition and literature.

A prerequisite evaluation is conducted upon receipt of the application and all official transcripts. All required prerequisites must be fulfilled before an applicant is eligible for admission.
Bachelor’s Degree in Discipline/Related Discipline: A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: In 500 to 1,000 words, outline your interest in seeking a master’s degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores: The official score report must demonstrate a passing score on both Praxis® and Praxis®:

- Praxis® Test Code 30511 — Fundamental Subjects: Content Knowledge
- Praxis® Test Code 10101 — Business Subjects

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 79 iBT or 550 PBT
IELTS: 6.5
PTE Academic: 53

Resume: Current resume required.

Transfer Credit: Courses may be transferred from an accredited institution provided they were completed less than five years ago and are relevant to the program. The academic advisor makes the decision about the relevancy of the courses that the student desires to transfer. The maximum number of credits a student may transfer is 6.

Coursework Waivers: Each student is assigned a faculty advisor at the time of admission. The advisor reviews the student’s credentials and determines which, if any, of the required courses can be waived. In general, this waiver covers the beginning-level courses in the program. Waiving a specific requirement, however, does not reduce the total number of credits needed to graduate.

Clearances: A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 33

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
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<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSED 5513</td>
<td>Methods of Teaching BCIT</td>
<td>3</td>
</tr>
<tr>
<td>BSED 5514</td>
<td>Cur Dev &amp; Trends in BCIT</td>
<td>3</td>
</tr>
<tr>
<td>CTE 5669</td>
<td>Project-Based Learning</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 5255</td>
<td>Tech in Classrooms: TPCK</td>
<td>3</td>
</tr>
</tbody>
</table>

EDUC 5402  Child and Adol Develop 3
EDUC 5409  Research Methods and Induction Capstone 3
EDUC 5605  Models of Teaching 3
EDUC 5888  Supervised Teaching 3
SECE 5471  Literacy and Differentiation in the Academic Areas, 7-12
SPED 5666  Inclusive School Practices 3
TESL 5631  Foundations of Language Teaching: Meeting the Needs of English Language Learners 3

Total Credit Hours 33

Culminating Events: Student teaching and its related seminar are the culminating events for this program.

Contacts

Program Web Address:

Department Information:
Dept. of Teaching and Learning
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
Admissions:
Office of Enrollment Management
educate@temple.edu
215-204-0999

Career and Technical Education/Industrial Education, M.Ed.

COLLEGE OF EDUCATION (http://education.temple.edu)


About the Program

The mission of the Career and Technical Education master’s program with a concentration in Industrial Education is to enable its students to become effective teachers of Industrial Education in grades 7 to 12. This program provides competencies for diverse types of teaching environments and offers transitional skill attainment strategies for application of knowledge across an array of career and technical program areas. Individuals completing the program find success in secondary teaching, post-secondary teaching in community colleges, and developing industrial training programs for businesses.
Time Limit for Degree Completion: 4 years

Campus Location: Ambler, Fort Washington

Full-Time/Part-Time Status: Students complete the degree program through classes offered after 4:30 p.m. The degree program can be completed on a full- or part-time basis.

Accreditation: The program is approved as a teacher certification program by the Pennsylvania Department of Education and is accredited by the Teacher Education Accreditation Council (TEAC).

Job Prospects: Graduates typically continue in their established career paths as career and technical educators, work-force development professionals, and technical trainers in business and industry.

Licensure: Upon successful completion of the degree requirements and passing all required licensure examinations, candidates may apply for a Pennsylvania Vocational Instructional I and II Teaching Certificates for grades 7 to 12.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2
From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

Bachelor’s Degree in Discipline/Related Discipline: A bachelor’s degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: In 500 to 1,000 words, outline your interest in seeking a master’s degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores:
Occupational Competency Assessment (OCA): Applicants must have at least 2 years’ experience in the field and pass the OCA.

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 79 iBT or 550 PBT
IELTS: 6.5
PTE Academic: 53

Resume: Current resume required.

Transfer Credit: Courses may be transferred from an accredited institution provided they were completed less than five years ago and are relevant to the program. The academic advisor makes the decision about the relevancy of the courses that the student desires to transfer. The maximum number of credits a student may transfer is 6.

Coursework Waivers: Each student is assigned a faculty advisor at the time of admission. The advisor reviews the student’s credentials and determines which, if any, of the required courses can be waived. In general, this waiver covers the beginning-level courses in the program. Waiving a specific requirement, however, does not reduce the total number of credits needed to graduate.

Clearances: A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 33

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>CTE 5401</td>
<td>Current Problems in Career and Technical Education</td>
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</tr>
<tr>
<td>CTE 5411</td>
<td>Evaluation in Career and Technical Education</td>
<td>3</td>
</tr>
<tr>
<td>CTE 5426</td>
<td>Professionalism and Staff Development</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 5255</td>
<td>Tech in Classrooms: TPCK</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 5402</td>
<td>Child and Adol Develop</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 5409</td>
<td>Research Methods and Induction Capstone</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 5605</td>
<td>Models of Teaching</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 5888</td>
<td>Supervised Teaching</td>
<td>3</td>
</tr>
<tr>
<td>SECE 5471</td>
<td>Literacy and Differentiation in the Academic Areas, 7-12</td>
<td>3</td>
</tr>
<tr>
<td>SPED 5666</td>
<td>Inclusive School Practices</td>
<td>3</td>
</tr>
<tr>
<td>TESL 5631</td>
<td>Foundations of Language Teaching: Meeting the Needs of English Language Learners</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours 33
In-service teachers of Career and Technical Education are required to take only 3 credits of EDUC 5888.

Culminating Events: Student teaching and its related seminar are the culminating events for this program.

Contacts

Program Web Address:

Department Information:
Dept. of Teaching and Learning
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
Admissions:
Office of Enrollment Management
educate@temple.edu
215-204-0999

Career and Technical Education/Marketing Education, M.Ed.

COLLEGE OF EDUCATION (http://education.temple.edu)


About the Program

The mission of the Career and Technical Education master’s program with a concentration in Marketing Education is to enable its students to become effective marketing teachers in K-12 schools. This program provides competencies for diverse types of work in marketing and offers transitional skill attainment strategies for application of knowledge across an array of business areas. Individuals completing the program find success in secondary teaching, post-secondary teaching in community colleges, developing marketing education programs for businesses, and as trainers in marketing for a variety of business types and sizes.

Time Limit for Degree Completion: 4 years

Campus Location: Main, Fort Washington

Full-Time/Part-Time Status: Students complete the degree program through classes offered after 4:30 p.m. The degree program can be completed on a full- or part-time basis.

Accreditation: The program is approved as a teacher certification program by the Pennsylvania Department of Education and is accredited by the Teacher Education Accreditation Council (TEAC).

Job Prospects: Graduates typically continue in their established career paths as career and technical educators, workforce development professionals, and technical trainers in business and industry.

Licensure: Upon successful completion of the degree requirements and passing all required licensure examinations, candidates may apply for a Pennsylvania Instructional I Teaching Certificate.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:
Fall: March 1
Spring: November 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

Coursework Required for Admission Consideration: Prerequisites for admission to the Career and Technical Education M.Ed. program include courses taken at the undergraduate level with a grade of "C" or better earned in the following areas:

- At least 6 credits of college-level mathematics.
- At least 6 credits of college-level English composition and literature.

A prerequisite evaluation is conducted upon receipt of the application and all official transcripts. All required prerequisites must be fulfilled before an applicant is eligible for admission.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: In 500 to 1,000 words, outline your interest in seeking a master’s degree with a specific focus on the career to
which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

**Standardized Test Scores:** The official score report must demonstrate a passing score on both **Praxis I®** and **Praxis II®**:

- **Praxis I®** Test Code 30511 — Fundamental Subjects: Content Knowledge
- **Praxis II®** Test Code 10561 — Marketing Education

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

- TOEFL: 79 iBT or 550 PBT
- IELTS: 6.5
- PTE Academic: 53

**Resume:** Current resume required.

**Transfer Credit:** Courses may be transferred from an accredited institution provided they were completed less than five years ago and are relevant to the program. The academic advisor makes the decision about the relevancy of the courses that the student desires to transfer. The maximum number of credits a student may transfer is 6.

**Coursework Waivers:** Each student is assigned a faculty advisor at the time of admission. The advisor reviews the student’s credentials and determines which, if any, of the required courses can be waived. In general, this waiver covers the beginning-level courses in the program. Waiving a specific requirement, however, does not reduce the total number of credits needed to graduate.

**Clearances:** A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment.

**Other Requirement:** Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

**Program Requirements**

**General Program Requirements:**

- **Number of Credits Required Beyond the Baccalaureate:** 33

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>CTE 5669</td>
<td>Project-Based Learning</td>
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<tr>
<td>DSED 5422</td>
<td>Methods of Teach Mkt Edu</td>
<td>3</td>
</tr>
<tr>
<td>DSED 5522</td>
<td>Trends in Distribution</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 5255</td>
<td>Tech in Classrooms: TPCK</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 5402</td>
<td>Child and Adol Develop</td>
<td>3</td>
</tr>
<tr>
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<td>Research Methods and Induction Capstone</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 5605</td>
<td>Models of Teaching</td>
<td>3</td>
</tr>
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<td>EDUC 5888</td>
<td>Supervised Teaching</td>
<td>3</td>
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<tr>
<td>SECE 5471</td>
<td>Literacy and Differentiation in the Academic Areas,</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>7-12</td>
<td></td>
</tr>
<tr>
<td>SPED 5666</td>
<td>Inclusive School Practices</td>
<td>3</td>
</tr>
</tbody>
</table>

**TESL 5631** Foundations of Language Teaching: Meeting the Needs of English Language Learners

| Total Credit Hours | 33 |

**Culminating Events:** Student teaching and its related seminar are the culminating events for this program.

**Contacts**

**Program Web Address:**

**Department Information:**

Dept. of Teaching and Learning
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

**Submission Address for Application Materials:**

http://apply.temple.edu/coe

**Department Contacts:**

Admissions:
Office of Enrollment Management
educate@temple.edu
215-204-0999

**Counseling Psychology, M.Ed.**

COLLEGE OF EDUCATION (https://education.temple.edu)


**About the Program**

The Counseling Psychology program offers a 60-credit master’s degree in Education (M.Ed.) with two areas of concentration:

- Agency Counseling, which prepares students to work with individuals, couples, families, and groups in various settings, including community mental health centers, hospitals, and consulting agencies. Completion of the master’s degree in the Agency Counseling concentration qualifies the student to become a Licensed Professional Counselor (LPC) in the Commonwealth of Pennsylvania.
- School Counseling, which prepares students to work with students, teachers, administrators, and parents in either an elementary or secondary school setting. Completion of the master’s degree in the School Counseling concentration qualifies the student for certification as a Pre-K-12 school counselor in the Commonwealth of Pennsylvania.

**Time Limit for Degree Completion:** 4 years

**Campus Location:** Main
Full-Time/Part-Time Status: Full-time students complete the degree program by taking classes during the day and in the evening. Part-time students take classes that start after 4:00 p.m.

Areas of Specialization: The program offers concentrations in Agency Counseling and School Counseling.

Job Prospects: Graduates typically engage in careers as agency counselors or school counselors, or use their degree to pursue doctoral training in a field related to Counseling Psychology.

Licensure: When post-degree requirements specified by the state licensing board are met by graduates of the Agency Counseling concentration, they are eligible for licensure as a Licensed Professional Counselor (LPC) in the Commonwealth of Pennsylvania. Approximately two additional years of post-master’s work experience is required prior to sitting for licensure. Students in the School Counseling concentration are eligible to apply for Pennsylvania school counseling certification (Educational Specialist I) at the time of graduation from the program.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:

Fall: February 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support. The faculty admissions committee reviews application materials to evaluate evidence of:

- Work experience and/or volunteer public service relevant to professional development in counseling psychology;
- Intra- and inter-personal skills (or potential for the development of such skills) as indicated in the applicant’s personal and career statements; and
- Aptitude for graduate-level academic work as determined by graduate and undergraduate grades, especially work in the major and in prerequisite psychology courses.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

Bachelor’s Degree in Discipline/Related Discipline: A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: In 500 to 1,000 words, outline your interest in seeking a master’s degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores:

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

- TOEFL: 79 iBT or 550 PBT
- IELTS: 6.5
- PTE Academic: 53

Interview: An interview with the faculty admissions committee may be required after a complete application is received.

Resume: Current resume required.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Program Requirements

General Program Requirements:
Number of Program Requirements: Beyond the Baccalaureate: 60

Required Courses:

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<td>CPSY 5492</td>
<td>Theories of Counseling Psychology</td>
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</tr>
<tr>
<td>CPSY 5511</td>
<td>Counseling in the Schools</td>
<td>3</td>
</tr>
<tr>
<td>or CPSY 5691</td>
<td>Diagnosis in Counseling Psychology</td>
<td></td>
</tr>
<tr>
<td>CPSY 5519</td>
<td>Group Counseling</td>
<td>3</td>
</tr>
<tr>
<td>CPSY 5526</td>
<td>Multicultural Counseling</td>
<td>3</td>
</tr>
<tr>
<td>CPSY 5565</td>
<td>Educational Specialists Coordinating Community Resources for Diverse Learners</td>
<td>3</td>
</tr>
<tr>
<td>or CPSY 5566</td>
<td>Professional Issues in Mental Health Counseling</td>
<td></td>
</tr>
<tr>
<td>CPSY 5579</td>
<td>Introduction to Couples and Family Counseling</td>
<td>3</td>
</tr>
<tr>
<td>CPSY 5591</td>
<td>Legal and Ethical Issues in Counseling Psychology</td>
<td>3</td>
</tr>
<tr>
<td>CPSY 5593</td>
<td>Career Counseling and Development</td>
<td>3</td>
</tr>
<tr>
<td>CPSY 5694</td>
<td>Introduction to Assessment</td>
<td>3</td>
</tr>
<tr>
<td>CPSY 5698</td>
<td>Fundamental Counseling Techniques</td>
<td>3</td>
</tr>
<tr>
<td>CPSY 5699</td>
<td>Crisis Prevention, Intervention, and Consultation</td>
<td>3</td>
</tr>
<tr>
<td>CPSY 9085</td>
<td>Advanced Counseling Techniques</td>
<td>3</td>
</tr>
<tr>
<td>CPSY 9185</td>
<td>Master's Internship in Counseling Psychology</td>
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<tr>
<td>CPSY 9285</td>
<td>Master's Internship in Counseling Psychology</td>
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<tr>
<td>CPSY 9387</td>
<td>Practicum in Counseling Psychology I &amp; II</td>
<td>9</td>
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<tr>
<td>EDUC 5325</td>
<td>Introduction to Statistics and Research</td>
<td>3</td>
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<tr>
<td>EPSY 5541</td>
<td>Concepts in Human Development</td>
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<td>Elective</td>
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<td>Total Credit Hours</td>
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</tbody>
</table>

Schools, Colleges, and Divisions 387
Internship: Students are required to complete a 780-hour internship, with 280 direct client contact hours completed at a training site approved by the program. Students in the Agency Counseling concentration complete their training in a community mental health setting, while those in the School Counseling concentration complete theirs in a school setting. Students receive individual on-site supervision and faculty supervision as a part of their training experience.

Culminating Events:
Comprehensive Examination: The comprehensive examination is designed to provide students with an opportunity to demonstrate their ability to integrate and apply both their didactic and practice-oriented academic experiences.

Contacts
Program Web Address: https://www.temple.edu/academics/degree-programs/counseling-psychology-med-ed-cpsy-med

Department Information:
Dept. of Psychological Studies in Education
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
Admissions: Office of Enrollment Management
educate@temple.edu
215-204-0999

Counseling Psychology, Ph.D.
COLLEGE OF EDUCATION (http://education.temple.edu)

About the Program
This program is not accepting applications for the 2018-2019 academic year.

Early Childhood Education, M.Ed.
COLLEGE OF EDUCATION (http://education.temple.edu)


About the Program
The Early Childhood Education graduate program is designed to prepare students for initial teacher certification in Early Childhood Education, grades pre-Kindergarten to 4.

Time Limit for Degree Completion: 4 years
Campus Location: Main
Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis. Evening classes on Main campus start at 5:00 p.m. Students also complete fieldwork in a classroom one day a week throughout each academic term.

Accreditation: The program is approved as a teacher certification program by the Pennsylvania Department of Education and is accredited by the Teacher Education Accreditation Council (TEAC).

Job Prospects: Graduates typically pursue early childhood teaching positions in school settings in grades pre-Kindergarten to 4.

Licensure: Upon successful completion of the degree requirements and passing all required licensure examinations, candidates may apply for a Pennsylvania Instructional I Teaching Certificate.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. **Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.**

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines
Application Deadline:
Fall: March 1
Spring: November 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

Coursework Required for Admission Consideration: Prerequisites for admission to the Early Childhood Education M.Ed. program include courses taken at the undergraduate or graduate level with a grade of “C” or better earned in the following areas:

- At least two courses (or 6 credits) in mathematics, excluding basic or remedial courses below the 1000 level.
- At least two courses (or 6 credits) in language arts/English, including one course in writing/composition and one literature course.
- At least one course (or 3 credits) each in science, history (American and World History recommended), and art or music.
A prerequisite evaluation is conducted upon receipt of the application and all official transcripts. All required prerequisites must be fulfilled before an applicant is eligible for admission.

**Bachelor’s Degree in Discipline/Related Discipline:** A bachelor’s degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

**Statement of Goals:** In 500 to 1,000 words, outline your interest in seeking a master’s degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

**Standardized Test Scores:** Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

- TOEFL: 79 iBT or 550 PBT
- IELTS: 6.5
- PTE Academic: 53

**Resume:** Current resume required.

**Transfer Credit:** Courses may be transferred from an accredited institution provided they were completed less than five years ago and are relevant to the program. The academic advisor makes the decision about the relevancy of the courses that the student desires to transfer. The maximum number of credits a student may transfer is 6.

**Clearances:** A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment.

**Other Requirement:** Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

**Program Requirements**

**General Program Requirements:**

- **Number of Credits Required Beyond the Baccalaureate:** 37

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 5402</td>
<td>Child and Adol Develop</td>
<td>3</td>
</tr>
<tr>
<td>EPSY 8980</td>
<td>Seminar Series: Problems in Educational Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

**Early Childhood Education Courses**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECED 5106</td>
<td>Early Literacy and Language Development: Birth-Kindergarten</td>
<td>3</td>
</tr>
<tr>
<td>ECED 5107</td>
<td>Mathematics Education for the Early Years: PreK-4</td>
<td>3</td>
</tr>
<tr>
<td>ECED 5108</td>
<td>Social Studies Education for the Early Years: PreK-4</td>
<td>3</td>
</tr>
<tr>
<td>ECED 5109</td>
<td>Science Education for the Early Years: PreK to 4</td>
<td>3</td>
</tr>
</tbody>
</table>

**Special Education and TESOL Courses**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPED 5211</td>
<td>Effective Instructional Strategies for Young Children with Disabilities</td>
<td>3</td>
</tr>
<tr>
<td>SPED 5666</td>
<td>Inclusive School Practices</td>
<td>3</td>
</tr>
<tr>
<td>TESL 5631</td>
<td>Foundations of Language Teaching: Meeting the Needs of English Language Learners</td>
<td>3</td>
</tr>
</tbody>
</table>

**Culminating Courses**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 5409</td>
<td>Research Methods and Induction Capstone</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 5888</td>
<td>Supervised Teaching</td>
<td>4</td>
</tr>
</tbody>
</table>

**Total Credit Hours:** 37

**Culminating Events:** Supervised teaching and its related research methods and capstone course are the culminating events for this program.

**Contacts**

**Program Web Address:**


**Department Information:**

Dept. of Teaching and Learning
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

**Submission Address for Application Materials:**

[http://apply.temple.edu/coe](http://apply.temple.edu/coe)

**Department Contacts:**

**Admissions:**
Office of Enrollment Management
educate@temple.edu
215-204-0999

**Early Childhood Education and Special Education, M.Ed.**

COLLEGE OF EDUCATION (http://education.temple.edu)


**About the Program**

The Early Childhood Education and Special Education graduate program is designed to prepare students for dual teacher certification in Early Childhood Education and Special Education, grades pre-Kindergarten to 4.

**Time Limit for Degree Completion:** 4 years
Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis. Evening classes on Main campus start at 5:00 p.m. Students also complete fieldwork in a classroom one day a week throughout each academic term.

Accreditation: The program is approved as a teacher certification program by the Pennsylvania Department of Education and is accredited by the Teacher Education Accreditation Council (TEAC).

Job Prospects: Graduates typically pursue early childhood and special education teaching positions in school settings in grades pre-Kindergarten to 4.

Licensure: Upon successful completion of the degree requirements and passing all required licensure examinations, candidates may apply for a Pennsylvania Instructional I Teaching Certificate.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

Coursework Required for Admission Consideration: Prerequisites for admission to the Early Childhood Education and Special Education M.Ed. program include courses taken at the undergraduate or graduate level with a grade of "C" or better earned in the following areas:

- At least two courses (or 6 credits) in college-level mathematics, thus excluding remedial or developmental courses.
- At least two courses (or 6 credits) in language arts/English, including one course in writing/composition and one literature course.
- At least one course (or 3 credits) each in science, history (American and World History recommended), and art or music.

A prerequisite evaluation is conducted upon receipt of the application and all official transcripts. All required prerequisites must be fulfilled before an applicant is eligible for admission.

Bachelor’s Degree in Discipline/Related Discipline: A bachelor’s degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: In 500 to 1,000 words, outline your interest in seeking a master’s degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores: Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

- TOEFL: 79 iBT or 550 PBT
- IELTS: 6.5
- PTE Academic: 53

Resume: Current resume required.

Transfer Credit: Courses may be transferred from an accredited institution provided they were completed less than five years ago and are relevant to the program. The academic advisor makes the decision about the relevancy of the courses that the student desires to transfer. The maximum number of credits a student may transfer is 6.

Clearances: A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 46

Required Courses:

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</thead>
<tbody>
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<td>3</td>
</tr>
<tr>
<td>EPSY 8980</td>
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<td>Social Studies Education for the Early Years: PreK-4</td>
<td>3</td>
</tr>
<tr>
<td>ECED 5109</td>
<td>Science Education for the Early Years: PreK to 4</td>
<td>3</td>
</tr>
<tr>
<td>ECED 5206</td>
<td>Literacy Foundations for the Primary Grades: First through Fourth</td>
<td>3</td>
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</table>

Special Education Courses
SPED 5106 Literacy Instruction for Young Children with Disabilities 3
SPED 5109 Classroom Management and Positive Behavior Support 3
SPED 5187 Graduate Assessment Practicum in Early Childhood Special Education 3
SPED 5211 Effective Instructional Strategies for Young Children with Disabilities 3
SPED 5666 Inclusive School Practices 3
TESOL Course
TESL 5631 Foundations of Language Teaching: Meeting the Needs of English Language Learners 3

Culminating Courses
EDUC 5409 Research Methods and Induction Capstone 3
EDUC 5888 Supervised Teaching 4

Total Credit Hours 46

Culminating Events: Supervised teaching and its related research methods and capstone course are the culminating events for this program.

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Education/Applied Linguistics, Ph.D.

COLLEGE OF EDUCATION (http://www.temple.edu/education)

About the Program
The interdisciplinary Ph.D. program in Education, with a concentration in Applied Linguistics, prepares students to study ways in which languages – and, in particular, second or additional languages – are used, taught, and learned in today’s increasingly globalized and multilingual world. The program promotes significant research on the teaching and learning of additional languages, including but not limited to English, and on the interaction between language ideologies and practices in multilingual communities and societies. Students gain theoretical grounding, research experiences, and academic skills that prepare them for academic research positions and other academic and practice-oriented positions.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: Students may matriculate either full-time or part-time. Most courses are offered in the evening to accommodate working professionals. The length of time to complete the doctoral degree program varies depending on the number of courses taken each term.

Job Prospects: Graduates are prepared for academic research positions in the areas of Applied Linguistics, Second and Foreign Language Education, and TESOL, as well as for other academic and practice-oriented positions.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include assistantships, fellowships, scholarships, tuition remission, graduate student employment, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines
Application Deadline:
Fall: December 1

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

Master’s Degree in Discipline/Related Discipline: Students who hold a master’s degree in a related field may transfer in up to 30 credits as advanced standing, with approval.

Bachelor’s Degree in Discipline/Related Discipline: A bachelor’s degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged
to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: Using autobiographical style, explain your interest in pursuing a doctoral degree in education. The statement should outline the following:

- A research project you would like to pursue while at Temple,
- Why the project is of interest to you, and
- How the project is of scholastic importance.

Standardized Test Scores:
GRE: Official scores are required to be reported from the test taken no more than 5 years prior to submitting an application.

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 100 iBT or 600 PBT
IELTS: 7.0
PTE Academic: 68

Resume: Current resume required.

Writing Sample: The academic writing sample should be a paper written for a class within the last five years. If a recent paper is not available, the applicant should compose an op-ed piece on an educational issue of her/his choosing. The op-ed should be 400 to 1,200 words in length and of the kind that might appear in *The New York Times* or *Philadelphia Inquirer*.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

## Program Requirements

### General Program Requirements:

*Number of Credits Required Beyond the Master's: 48*

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 5262</td>
<td>Introduction to Qualitative Research</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 8401</td>
<td>Philosophical Foundations of Educational Research</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 8404</td>
<td>Quantitative Analysis, Part I</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 8405</td>
<td>Quantitative Analysis, Part II</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 9987</td>
<td>Teaching Apprenticeship</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 9991</td>
<td>Research Apprenticeship</td>
<td>3</td>
</tr>
<tr>
<td>EPSY 8627</td>
<td>Introduction to Research Design and Methods</td>
<td>3</td>
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<tr>
<td></td>
<td>Advanced Methods Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

**Applied Linguistics Concentration Courses**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 8505</td>
<td>Assessment and Evaluation of Students</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 8506</td>
<td>Cognition and Learning in Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 9991</td>
<td>Research Apprenticeship</td>
<td>3</td>
</tr>
<tr>
<td>TESL 5611</td>
<td>Applied Language Study I: Phonology and the Lexicon</td>
<td>9</td>
</tr>
</tbody>
</table>

### Culminating Courses

- TESL 5613 Multilingual Students' Literacy Development
- TESL 8625 Applied Linguistics
- TESL 8626 Second Language Writing
- TESL 8635 Educating English Language Learners: State of Knowledge
- TESL 8636 Assessment of English Language Learners
- TESL 8643 Research Methods in Applied Linguistics
- TESL 8644 Current Issues in Applied Linguistics

**Total Credit Hours**: 48

1 Of the 6 credits overall, a minimum of 2 credits of EDUC 9999 must be taken.

**Internship**: An internship in the form of a research apprenticeship is required.

### Culminating Events:

#### Preliminary Examination:

The purpose of the preliminary examination is for students to demonstrate their development in the three core areas of a faculty member’s life: research, teaching, and service. The exam requires students to undertake an integrative analysis of research; to demonstrate that they can bring research and theory into effective practice in their teaching; and to exhibit their ability to provide professional service. Preliminary exams are evaluated by a committee of faculty in the concentration. Evaluators look for a breadth and depth of understanding of research and theory; a critical application of that knowledge to specific phenomena and to teaching; integrative reasoning ability; and an ability to write technical prose.

#### Proposal with Oral Defense:

The dissertation proposal demonstrates the student’s knowledge of and ability to conduct the proposed research. The proposal should consist of the context and background surrounding a particular research problem; an exhaustive survey and review of literature related to the problem; and a detailed methodological plan for investigating the problem. The proposal should be completed and approved no more than one year after completing coursework.

The proposal is defended in an open hearing attended by the student’s Doctoral Advisory Committee, which is formed to oversee the student’s doctoral research and is comprised of at least three Graduate Faculty members. Two members, including the Chair, must be from, or affiliated with, Applied Linguistics. The Chair is responsible for overseeing and guiding the student’s progress, coordinating the responses of the committee members, and informing the student of her/his academic progress. Upon approval of the proposal by the Doctoral Advisory Committee, a timeline for completing the investigation and writing process is established.

#### Dissertation with Oral Defense:

The doctoral dissertation is an original study that makes a significant contribution to the field. It should expand the existing knowledge and demonstrate the student's knowledge of both research methods and a mastery of her/his primary area of interest. Dissertations should be rigorously investigated; uphold the ethics and standards of the field; demonstrate an understanding of the relationship between the primary
area of interest and the broader field of business; and be prepared for publication in an academic journal.

The Dissertation Examining Committee evaluates the student's dissertation and oral defense. This committee is comprised of the Doctoral Advisory Committee and at least two additional faculty members, one of whom must be from outside the concentration. The Dissertation Examining Committee evaluates the student's ability to express verbally her/his research question, methodological approach, primary findings, and implications. The committee votes to pass or fail the dissertation and the defense at the conclusion of the public presentation.

Students who are preparing to defend their dissertation should confirm a time and date with their Dissertation Examining Committee and register with the Shimada Resource Center at least 10 days before the defense is to be held. After the time, date, and room for the defense have been established, the completed "Announcement of Dissertation Defense" form, found in TUportal under the Tools tab within “University Forms,” is sent to the Graduate School. A flyer announcing the defense is posted in a public location in the College.

Contacts

Program Web Address:
https://www.temple.edu/academics/degree-programs/education-phd-educ-phd

Department Information:
Applied Linguistics Ph.D. Program
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
Admissions:
Office of Enrollment Management
educate@temple.edu
215-204-0999

Education/Educational Psychology, Ph.D.

COLLEGE OF EDUCATION (http://education.temple.edu)

Learn more about the Doctor of Philosophy in Education (https://www.temple.edu/academics/degree-programs/education-phd-educ-phd).

About the Program

The interdisciplinary Ph.D. program in Education, with a concentration in Educational Psychology, seeks to advance the understanding of learning, cognition, and human development as these processes apply to educational processes and practices. The Educational Psychology specialty is characterized by a strong theoretical and research orientation, the interplay of theory and practice, an interdisciplinary approach, and a commitment to service. Designed for students seeking to become professors or researchers in higher education, it is structured around the three areas of learning and conceptual processes, motivation, and applied data analysis and research methodology.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: Students may matriculate either full-time or part-time. Most courses are offered in the evening to accommodate working professionals. The length of time to complete the doctoral degree program varies depending on the number of courses taken each term.

Job Prospects: Graduates typically pursue careers in higher education.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include assistantships, fellowships, scholarships, tuition remission, graduate student employment, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:
Fall: December 1

Applications are accepted for the Fall term only. Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

Master's Degree in Discipline/Related Discipline: Students who hold a master's degree in a related field may transfer in up to 30 credits as advanced standing, with approval.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: Using autobiographical style, explain your interest in pursuing a doctoral degree in education. The statement should outline the following:

• A research project you would like to pursue while at Temple,
• Why the project is of interest to you, and
• How the project is of scholastic importance.

**Standardized Test Scores:**
GRE: Official scores are required to be reported from the test taken no more than 5 years prior to submitting an application.

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

- TOEFL: 100 iBT or 600 PBT
- IELTS: 7.0
- PTE Academic: 68

**Resume:** Current resume required.

**Writing Sample:** The academic writing sample should be a paper written for a class within the last five years. If a recent paper is not available, the applicant should compose an op-ed piece on an educational issue of her/his choosing. The op-ed should be 400 to 1,200 words in length and of the kind that might appear in *The New York Times* or *Philadelphia Inquirer*.

**Other Requirement:** Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

**Program Requirements**

**General Program Requirements:**

**Number of Credits Required Beyond the Master's:** 48

**Required Courses:**

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**Educational Psychology Concentration Courses**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
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<td>EDUC 8501</td>
<td>Motivation in Education</td>
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</tr>
<tr>
<td>EDUC 8503</td>
<td>Learning to Read</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 8504</td>
<td>Problem Solving and Reasoning in STEM Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 8506</td>
<td>Cognition and Learning in Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 9991</td>
<td>Research Apprenticeship</td>
<td>3</td>
</tr>
<tr>
<td>EPSY 8986</td>
<td>Prosemin in Educational Psychology</td>
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**Culminating Courses**

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<td>Dissertation Proposal Design</td>
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</tr>
<tr>
<td>EDUC 9999</td>
<td>Doctor of Education Dissertation</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credit Hours** 48

1 Of the 6 credits overall, a minimum of 2 credits of EDUC 9999 must be taken.

**Internship:** An internship in the form of a research apprenticeship is required.

**Culminating Events:**

**Preliminary Examination:**
The purpose of the preliminary examination is for students to demonstrate their development in the three core areas of a faculty member's life: research, teaching, and service. The exam requires students to undertake an integrative analysis of research; to demonstrate that they can bring research and theory into effective practice in their teaching; and to exhibit their ability to provide professional service. Preliminary exams are evaluated by a committee of faculty in the concentration. Evaluators look for a breadth and depth of understanding of research and theory; a critical application of that knowledge to specific phenomena and to teaching; integrative reasoning ability; and an ability to write technical prose.

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Office of Enrollment Management
educate@temple.edu
215-204-0999

Education/Literacy and Learners, Ph.D.

COLLEGE OF EDUCATION (http://www.temple.edu/education)


About the Program
The Ph.D. concentration in Literacy and Learners prepares students to understand literacy research and practice and to contribute new knowledge to the field of literacy learning. The program defines literacy learning broadly. Students can focus on various aspects of language and literacy from their developmental foundations in childhood and early schooling to how older children, adolescents, and adults learn and apply them in different contexts. The program is grounded on the beliefs that education is a primary mechanism for social justice and that educational research has the capacity to improve the material conditions of people’s lives.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: Students may matriculate either full-time or part-time. Most courses are offered in the evening to accommodate working professionals. The length of time to complete the doctoral degree program varies depending on the number of courses taken each term.

Job Prospects: The program is designed to prepare students for an academic or other research-oriented job.

Financing Opportunities: Financial support opportunities may include assistantships, fellowships, scholarships, tuition remission, graduate student employment, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines
Application Deadline:
Fall: December 1

Applications are accepted for the Fall term only. Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

Master's Degree in Discipline/Related Discipline: Students who hold a master's degree in a related field may transfer in up to 30 credits as advanced standing, with approval.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: Using autobiographical style, explain your interest in pursuing a doctoral degree in education. The statement should outline the following:

• A research project you would like to pursue while at Temple,
• Why the project is of interest to you, and
• How the project is of scholastic importance.

Standardized Test Scores:
GRE: Official scores are required to be reported from the test taken no more than 5 years prior to submitting an application.

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 100 iBT or 600 PBT
IELTS: 7.0
PTE Academic: 68

Resume: Current resume required.

Writing Sample: The academic writing sample should be a paper written for a class within the last five years. If a recent paper is not available, the applicant should compose an op-ed piece on an educational issue of her/his choosing. The op-ed should be 400 to 1,200 words in length.
and of the kind that might appear in The New York Times or Philadelphia Inquirer.

**Other Requirement:** Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

### Program Requirements

**General Program Requirements:**

*Number of Credits Required Beyond the Master's: 48*

**Required Courses:**

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>EDUC 5262</td>
<td>Introduction to Qualitative Research</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 8401</td>
<td>Philosophical Foundations of Educational Research</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 8404</td>
<td>Quantitative Analysis, Part I</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 8405</td>
<td>Quantitative Analysis, Part II</td>
<td>3</td>
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<tr>
<td>EDUC 9987</td>
<td>Teaching Apprenticeship</td>
<td>3</td>
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<tr>
<td>EDUC 9991</td>
<td>Research Apprenticeship</td>
<td>3</td>
</tr>
<tr>
<td>EPSY 8627</td>
<td>Introduction to Research Design and Methods</td>
<td>3</td>
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<tr>
<td></td>
<td>Advanced Methods Elective</td>
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**Literacy and Learners Concentration Courses**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tr>
<td>EDUC 8278</td>
<td>Found Theor Res Reading</td>
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<tr>
<td>EDUC 8279</td>
<td>Found Theor Res Writing</td>
<td>3</td>
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<tr>
<td>EDUC 8502</td>
<td>Social Contexts of Learning</td>
<td>3</td>
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<tr>
<td>EDUC 8503</td>
<td>Learning to Read</td>
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<tr>
<td>EDUC 9991</td>
<td>Research Apprenticeship ¹</td>
<td>3</td>
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**Culminating Courses**²

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<tr>
<th>Code</th>
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<tbody>
<tr>
<td>EDUC 9998</td>
<td>Dissertation Proposal Design</td>
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<tr>
<td>EDUC 9999</td>
<td>Doctor of Education Dissertation</td>
<td></td>
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</table>

*Total Credit Hours: 48*

1. An elective may be selected in lieu of repeating EDUC 9991.
2. Of the 6 credits overall, a minimum of 2 credits of EDUC 9999 must be taken.

**Internship:** An internship in the form of a research apprenticeship is required.

**Culminating Events:**

**Preliminary Examination:**

The purpose of the preliminary examination is for students to demonstrate their development in the three core areas of a faculty member's life: research, teaching, and service. The exam requires students to undertake an integrative analysis of research; to demonstrate that they can bring research and theory into effective practice in their teaching; and to exhibit their ability to provide professional service. Preliminary exams are evaluated by a committee of faculty in the concentration. Evaluators look for a breadth and depth of understanding of research and theory; a critical application of that knowledge to specific phenomena and to teaching; integrative reasoning ability; and an ability to write technical prose.

**Proposal with Oral Defense:**

The dissertation proposal demonstrates the student's knowledge of and ability to conduct the proposed research. The proposal should consist of the context and background surrounding a particular research problem; an exhaustive survey and review of literature related to the problem; and a detailed methodological plan for investigating the problem. The proposal should be completed and approved no more than one year after completing coursework.

The proposal is defended in an open hearing attended by the student's Doctoral Advisory Committee, which is formed to oversee the student's doctoral research and is comprised of at least three Graduate Faculty members. Two members, including the Chair, must be from, or affiliated with, Literacy and Learners. The Chair is responsible for overseeing and guiding the student's progress, coordinating the responses of the committee members, and informing the student of her/his academic progress. Upon approval of the proposal by the Doctoral Advisory Committee, a timeline for completing the investigation and writing process is established.

**Dissertation with Oral Defense:**

The doctoral dissertation is an original study that makes a significant contribution to the field. It should expand the existing knowledge and demonstrate the student's knowledge of both research methods and a mastery of her/his primary area of interest. Dissertations should be rigorously investigated; uphold the ethics and standards of the field; demonstrate an understanding of the relationship between the primary area of interest and the broader field of business; and be of sufficient quality for publication in an academic journal.

The Dissertation Examining Committee evaluates the student's dissertation and oral defense. This committee is comprised of the Doctoral Advisory Committee and at least two additional faculty members, one of whom must be from outside the concentration. The Dissertation Examining Committee evaluates the student's ability to express verbally her/his research question, methodological approach, primary findings, and implications. The committee votes to pass or fail the dissertation and the defense at the conclusion of the public presentation.

Students who are preparing to defend their dissertation should confirm a time and date with their Dissertation Examining Committee and register with the Shimada Resource Center at least 10 days before the defense is to be held. After the time, date, and room for the defense have been established, the completed "Announcement of Dissertation Defense" form, found in TUportal under the Tools tab within “University Forms,” is sent to the Graduate School. A flyer announcing the defense is posted in a public location in the College.

**Contacts**

**Program Web Address:**

https://www.temple.edu/academics/degree-programs/education-phd-ed-educ-phd

**Department Information:**

Literacy and Learners Ph.D. Program
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999
Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
Admissions:
Office of Enrollment Management
educate@temple.edu
215-204-0999

Education/Science, Mathematics and Educational Technology, Ph.D.

COLLEGE OF EDUCATION (http://www.temple.edu/education)


About the Program

The interdisciplinary Ph.D. program in Education, with a concentration in Science, Mathematics and Educational Technology, prepares students to contribute new knowledge to the fields of science and mathematics, with an emphasis on educational technology. The program defines science and mathematics learning very broadly, preparing students to take on a variety of roles in science and mathematics education. Students can focus on any aspect of teaching and learning inclusive of students, teachers, and adult learners. However, because of our strategic location in North Philadelphia, we have a strong and demonstrated commitment to issues of teaching, learning, and schooling in urban contexts. The program is grounded in the dual belief that education is a primary mechanism for social justice and that educational research has the capacity to improve the material conditions of people’s lives.

The doctoral program in Science, Mathematics and Educational Technology prepares students in two ways: through academic coursework and through an intensive mentoring relationship with various faculty members. Coursework emphasizes a broad knowledge of critical lines of inquiry in science or mathematics education and the development of research and analytic skills, with an emphasis on educational technology. Research opportunities include working alongside prominent faculty on federally funded projects; exposure and presentations at regional and national conferences; and co-authoring papers for publication in top-tiered journals. Practice and research are blended in a program that promotes both teaching and learning.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: Students may matriculate either full-time or part-time. Most courses are offered in the evening to accommodate working professionals. The length of time to complete the doctoral degree program varies depending on the number of courses taken each term.

Job Prospects: Graduates are prepared to teach science or mathematics and are knowledgeable about educational technology.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include assistantships, fellowships, scholarships, tuition remission, graduate student employment, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:
Fall: December 1

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TOEFL: 100 IBT or 600 PBT
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PTE Academic: 68

Resume: Current resume required.
Writing Sample: The academic writing sample should be a paper written for a class within the last five years. If a recent paper is not available, the applicant should compose an op-ed piece on an educational issue of her/his choosing. The op-ed should be 400 to 1,200 words in length and of the kind that might appear in The New York Times or Philadelphia Inquirer.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Master's: 48

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<tr>
<td>Core Courses</td>
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<tr>
<td>EDUC 5262</td>
<td>Introduction to Qualitative Research</td>
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<tr>
<td>EDUC 8401</td>
<td>Philosophical Foundations of Educational Research</td>
<td>3</td>
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Science, Mathematics and Educational Technology

Concentration Courses

<table>
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<tr>
<th>Code</th>
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<tbody>
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<td>EDUC 8501</td>
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<td>EDUC 8502</td>
<td>Social Contexts of Learning</td>
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<tr>
<td>EDUC 8504</td>
<td>Problem Solving and Reasoning in STEM</td>
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<tr>
<td>EDUC 8506</td>
<td>Cognition and Learning in Education</td>
<td>3</td>
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<tr>
<td>EDUC 9255</td>
<td>Res. Seminar/Math/Sci Ed</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 9991</td>
<td>Research Apprenticeship</td>
<td>3</td>
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Culminating Courses 2

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<tr>
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<tbody>
<tr>
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<td>Doctor of Education Dissertation</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours 48

1. An elective may be selected in lieu of repeating EDUC 9991.
2. Of the 6 credits overall, a minimum of 2 credits of EDUC 9999 must be taken.

Internship: An internship in the form of a research apprenticeship is required.

Culminating Events:

Preliminary Examination:
The purpose of the preliminary examination is for students to demonstrate their development in the three core areas of a faculty member's life: research, teaching, and service. The exam requires students to undertake an integrative analysis of research; to demonstrate that they can bring research and theory into effective practice in their teaching; and to exhibit their ability to provide professional service.

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The proposal is defended in an open hearing attended by the student's Doctoral Advisory Committee, which is formed to oversee the student's doctoral research and is comprised of at least three Graduate Faculty members. Two members, including the Chair, must be from, or affiliated with, Math and Science Education. The Chair is responsible for overseeing and guiding the student's progress, coordinating the responses of the committee members, and informing the student of her/his academic progress. Upon approval of the proposal by the Doctoral Advisory Committee, a timeline for completing the investigation and writing process is established.

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**Schools, Colleges, and Divisions**

**Department Information:**
Science, Mathematics and Educational Technology Ph.D. Program  
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**Submission Address for Application Materials:**
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**Department Contacts:**

**Admissions:**  
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215-204-0999

**Education/Special Education, Ph.D.**

COLLEGE OF EDUCATION (http://www.temple.edu/education)


**About the Program**
The interdisciplinary Ph.D. program in Education, with a concentration in Special Education, prepares researchers to be equipped to study interventions designed to improve the learning and behavior of students with a variety of disabilities. The program emphasizes practical, relevant research that stems from a solid theoretical base. Moreover, the program focuses on inclusive practices and fosters an understanding of how sociopolitical factors influence classroom practices. Students selected for the program are expected to have an experiential base on which to draw in designing and implementing their research. All students gain:

- Up-to-date knowledge of the research and issues pertaining to special education;
- The ability to apply comprehensive research skills to problems relating to the education of children with special needs;
- The competence to prepare highly qualified teachers that are equipped to understand the complexities and individual differences of children with special needs, especially within urban environments; and
- A deep knowledge of how public policy and political and social variables shape research and service delivery activities within special education.

**Time Limit for Degree Completion:** 7 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** Students may matriculate either full-time or part-time. Most courses are offered in the evening to accommodate working professionals. The length of time to complete the doctoral degree program varies depending on the number of courses taken each term.

**Job Prospects:** Graduates are prepared to assume research positions at colleges and universities and/or to be engaged in the preparation of special educational professionals at both the pre-service and in-service levels. They are expected to contribute to the advancement of evidence-based practice throughout their careers.

**Non-Matriculated Student Policy:** Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. **Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.**

**Financing Opportunities:** Financial support opportunities may include assistantships, fellowships, scholarships, tuition remission, graduate student employment, and other financial aid such as grants, loans, and federal work study.

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**Letters of Reference:**  
**Number Required:** 2

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- Why the project is of interest to you, and
- How the project is of scholastic importance.

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GRE: Official scores are required to be reported from the test taken no more than 5 years prior to submitting an application.

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:
Introduction to Qualitative Research

Dissertation Proposal Design

3

Quantitative Analysis, Part I

3

Doctor of Education Dissertation

48

3

Introduction to Research Design and Methods

Research Apprenticeship

Teaching Apprenticeship

Proseminar in Individual Differences

Assessment and Evaluation of Students

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Department Information:
Special Education Ph.D. Program
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
Admissions:
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Educational Leadership, M.Ed.
COLLEGE OF EDUCATION (http://www.temple.edu/education)

About the Program
Currently open only to students in Jamaica, in collaboration with Church Teachers' College.

Educational Leadership, Ed.D.
COLLEGE OF EDUCATION (http://www.temple.edu/education)


About the Program
The Ed.D. in Educational Leadership program is intended for a wide audience of individuals with experience in K-12 educational settings who desire to advance their careers. Many educational professionals want a defined, predictable program of study that supports steady progress and complements the busy schedule of a teacher and/or school leader. This program institutes a cohort-based executive-format program, wherein courses are offered on weekends and during the summer, accommodating the schedules of working professionals. The program fosters and reinforces Temple’s commitment to social justice, equity, and ethical practices. The courses, course sequence, and dissertation process are designed in a way that the program coheres around these issues and their implications for educational leadership. This cohort program consists of a fixed-course sequence and is structured to allow students to complete their degree in three years.

The program objectives reflect the essential values of educational leadership and the foundational knowledge, skills, and abilities required for effective postsecondary administrative practice. Students gain:

- A deep understanding of the historical, social, legal, economic, cultural, and political contexts of higher education administration;
- An advanced understanding of the governance and finance structures of postsecondary institutions and systems;
- Sensitivity to the complexities of organizational culture and the ability to lead effectively in diverse settings;
- The ability to critically examine, diagnose, and address persistent inequities in college access and success;
- The ability to find, critically review, and apply evidence from scholarly and policy research, and a commitment to using evidence routinely in decision making; and
- Skills and habits of reflective practice that support equitable and ethical decision making in complex situations.

The essential expected learning outcomes of the Temple Ed.D. program in Educational Leadership include graduates’ ability to demonstrate advanced understanding of:

- Effective practices for equitable and ethical school, school district, and system leadership;
- Leadership and learning theories;
- The history, politics, policy, and philosophy of public, charter, and independent educational programs;
- Schooling, school governance, organizational leadership, and civic engagement; and
- How political, societal, and identity factors contribute to student and school success.

Graduates will also be able to demonstrate the ability to:

- Critically engage, diagnose, assess, and address issues of equity and inequality that exist in schools and school districts;
- Review and synthesize research and practitioner literature to examine educational issues;
- Select and apply research methods and theoretical frameworks to address problems of practice; and
- Design, engage in, and thoughtfully report on research in multiple designated formats, such as dissertation, white paper, and presentation.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: Students matriculate part-time. Courses are offered in a cohort-based executive-format program on weekends and during the summer to accommodate the schedules of working professionals. A fixed-course sequence allows students to complete the doctoral degree program in three years.

Affiliation(s): The program is a member of the University Council for Educational Administration (UCEA).

Job Prospects: Graduates typically become senior administrators in public or private schools; administrators in state or federal agencies; and administrators or professors in institutions of higher education.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include assistantships, fellowships, scholarships, tuition remission, graduate
student employment, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:

Summer II: March 1, 2019

**APPLICATIONS will next be accepted for SUMMER II 2019 ADMISSION **

Applications are considered every other year for the executive Ed.D. in Educational Leadership. Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

Master’s Degree in Discipline/Related Discipline: A master’s degree is preferred but not required. At a minimum, applicants are required to have successfully completed at least 30 graduate credits in a related field to be admitted to the program. All applicants will be expected to transfer in up to 30 credits as advanced standing, with approval.

Bachelor’s Degree in Discipline/Related Discipline: A bachelor’s degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: Using autobiographical style, explain your interest in pursuing a doctoral degree in education. The statement should address the following questions:

• How have your personal, academic, and professional experiences shaped your research interests, and how might a doctoral program in Education help you explore those interests?
• What academic/professional goals would the program help you to achieve following graduation?
• How does the doctoral program at Temple fit your individual interests, needs, and future goals – and which faculty member’s research best matches your own interests?

Standardized Test Scores:
Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 79 iBT or 550 PBT
IELTS: 6.5
PTE Academic: 53

Resume: Current resume required.

Writing Sample: The academic writing sample should be a paper written for a class within the last five years. If a recent paper is not available, the applicant should compose an op-ed piece on an educational issue of her/his choosing. The op-ed should be 400 to 1,200 words in length and of the kind that might appear in The New York Times or Philadelphia Inquirer.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Master’s: 45

Required Courses:

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summer II</td>
<td></td>
</tr>
<tr>
<td>EDAD 8461  Ethical Leadership</td>
<td>3</td>
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<tr>
<td>EPSY 8627  Introduction to Research Design and Methods</td>
<td>3</td>
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<tr>
<td>Term Credit Hours</td>
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<td>Fall</td>
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</tr>
<tr>
<td>EDAD 8635  Education Policy Analysis</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 5325  Introduction to Statistics and Research</td>
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<tr>
<td>Term Credit Hours</td>
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<tr>
<td>Spring</td>
<td></td>
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<tr>
<td>EDAD 8653  Civic Leadership</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 5262  Introduction to Qualitative Research</td>
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<tr>
<td>Term Credit Hours</td>
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<tr>
<td>Year 2</td>
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</tr>
<tr>
<td>Summer II</td>
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<tr>
<td>EDAD 8636  Research for Change</td>
<td>3</td>
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<tr>
<td>EDAD 8755  Organizational Dynamics</td>
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<td>Term Credit Hours</td>
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<tr>
<td>EDAD 8093  Administration Research Seminar</td>
<td>3</td>
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<tr>
<td>EDAD 8553  Democratic, Equitable, and Ethical Leadership</td>
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<td>Spring</td>
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<tr>
<td>EDUC 5010  Special Topics in Education</td>
<td>3</td>
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<tr>
<td>EDUC 9998  Dissertation Proposal Design</td>
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<tr>
<td>Year 3</td>
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<tr>
<td>Summer II</td>
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<tr>
<td>AOD 5534  Group Facilitation and Consultation</td>
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<td>Term Credit Hours</td>
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<td>Fall</td>
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</tr>
<tr>
<td>EDUC 9999  Doctor of Education Dissertation</td>
<td>3</td>
</tr>
<tr>
<td>Term Credit Hours</td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td></td>
</tr>
</tbody>
</table>
EDUC 9999  Doctor of Education Dissertation  3

Term Credit Hours  3

Total Credit Hours:  45

Culminating Events:
Comprehensive Examination:
At the end of the academic term in which students are enrolled in EDAD 8093 Administration Research Seminar and prior to completion of the dissertation proposal, students complete a comprehensive exam in order to advance to candidacy for the doctoral degree. The comprehensive exam consists of written responses to three questions developed by the instructor of the Research Seminar who, in most cases, will serve as the student’s primary dissertation advisor and chair. Through the comprehensive exam, students must demonstrate the ability to:

- situate and define a chosen topic or field within the concepts and history of the field;
- compare, contrast, and justify various research methods appropriate to investigation of a practice-based research problem; and
- critically synthesize the extant scholarly and practice-focused literature that informs administrative practice related to the topic.

Successful completion of the comprehensive exam advances students to doctoral candidate status and aids in preparation of the dissertation proposal.

Dissertation Proposal:
In the term immediately following completion of the EDAD 8093 Administration Research Seminar and successful completion of the comprehensive exam, students enroll in EDUC 9998 Dissertation Proposal Design. Like EDAD 8093 Administration Research Seminar, EDUC 9998 Dissertation Proposal Design serves as a structured, intensive, cohort-based monthly workshop in which students design and defend a dissertation proposal that outlines a rigorous plan for empirical study of an issue relevant to the student’s professional responsibilities or aspirations. The proposal must incorporate a thorough and critical review of literature relevant to the topic, a discussion of theoretical approaches to understanding and studying the topic, a conceptual or theoretical framework that will guide the study, and a robust methodological plan that includes assurances of completing IRB review and any interview or other protocols necessary to submit for IRB review. Dissertation proposal defense occurs at any point during or at the end of the academic term and students receive feedback from the faculty advisor, other committee members, and their cohort peers during their defense.

Dissertation:
The Ed.D. dissertation is distinct from the Ph.D. dissertation in that the intent of the Ed.D. dissertation is not to build theory but to make a substantive contribution to practice-focused scholarship in a particular domain of K-12 educational leadership. Ed.D. dissertations are typically less lengthy than Ph.D. dissertations and cover a smaller scope of theorizing and data collection. They are, however, held to the same standards as Ph.D. dissertations with respect to methodological validity, data analysis, and writing quality and clarity.

Following successful defense of the dissertation proposal and after securing IRB approval, students carry out an original research project intended to make a significant practice-based contribution to the field. While the Ed.D. dissertation is meant to have practical and applied relevance, however, it is nonetheless expected to engage rigorously with existing literature and theory appropriate to the student’s chosen topic and to demonstrate the student’s ability to execute robust methods appropriate to the student’s research question(s). Toward this end, Ed.D. students:

- prepare a dissertation study report that is a standard academic manuscript, which includes an introduction, literature review, conceptual/theoretical framework, methodology, results, discussion, and references; and
- produce a white paper/executive summary that distills the lessons of their research for practitioners in their field.

Contacts
Program Web Address:
https://www.temple.edu/academics/degree-programs/educational-leadership-edd-ed-edlis-edd

Department Information:
Educational Leadership Program
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
Admissions:
Office of Enrollment Management
educate@temple.edu
215-204-0999

Educational Psychology, M.Ed.
COLLEGE OF EDUCATION (http://education.temple.edu)

Learn more about the Master of Education in Educational Psychology (https://www.temple.edu/academics/degree-programs/educational-psychology-med-ed-epsy-med).

About the Program
The M.Ed. in Educational Psychology is designed to advance students’ understanding of learning, cognition, and human development as these processes apply to educational processes and practices. The Educational Psychology program is characterized by a strong theoretical and research orientation, the interplay of theory and practice, an interdisciplinary approach, and a commitment to service. Coursework focuses on three major areas: learning and conceptual processes, human development, and applied data analysis/assessment.

Time Limit for Degree Completion:  4 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered on a flexible schedule. The degree program can be completed on a full- or part-time basis.
Job Prospects: Graduates typically pursue careers in higher education in departments of education or psychology; in K-12 educational settings; as instructional technology specialists; as trainers in corporate, government, or medical settings; or as educational specialists in positions requiring skills in research design, applied statistics, or testing/measurement.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. **Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.**

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:

**Fall:** March 1  
**Spring:** November 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.  

**APPLY ONLINE to this graduate program.**

Letters of Reference:  
**Number Required:** 2  
**From Whom:** Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

Bachelor’s Degree in Discipline/Related Discipline: A bachelor’s degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: In 500 to 1,000 words, outline your interest in seeking a master’s degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores: Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:  

TOEFL: 79 iBT or 550 PBT  
IELTS: 6.5  
PTE Academic: 53

Resume: Current resume required.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Program Requirements

General Program Requirements:  
**Number of Credits Required Beyond the Baccalaureate:** 30

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>EDUC 5101</td>
<td>Critical Understanding of Social Science Research</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 5262</td>
<td>Introduction to Qualitative Research</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 5325</td>
<td>Introduction to Statistics and Research</td>
<td>3</td>
</tr>
<tr>
<td>EPSY 5523</td>
<td>Introduction to Educational Psychology</td>
<td>3</td>
</tr>
<tr>
<td>EPSY 5529</td>
<td>Tests and Measurements</td>
<td>3</td>
</tr>
<tr>
<td>EPSY 5531</td>
<td>Learning Theories and Education</td>
<td>3</td>
</tr>
<tr>
<td>EPSY 5541</td>
<td>Concepts in Human Development</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

*Electives are selected in consultation with the faculty advisor based on the student’s research interests and goals.*

Capstone Course:  
**EPSY 9995** Master's Capstone in Educational Psychology 3

Total Credit Hours 30

Culminating Events:  
**Capstone Course:**  
Students complete a summative project that applies theory to a real-world problem in the field as part of EPSY 9995 Master's Capstone in Educational Psychology.

Contacts

Program Web Address:  
https://www.temple.edu/academics/degree-programs/educational-psychology-med-ed-epsy-med

Department Information:  
Dept. of Psychological Studies in Education  
College of Education  
1301 Cecil B. Moore Avenue  
Philadelphia, PA 19122-6091  
educate@temple.edu  
215-204-0999

Submission Address for Application Materials:  
http://apply.temple.edu/coe

Department Contacts:  
Admissions:  
Office of Enrollment Management  
educate@temple.edu
Educational Psychology/Learning Technology, M.Ed.

COLLEGE OF EDUCATION (http://education.temple.edu)

About the Program
This program is not accepting applications for the 2018-2019 academic year.

Higher Education, M.Ed.

COLLEGE OF EDUCATION (http://education.temple.edu)


About the Program
The M.Ed in Higher Education is intended for early- and mid-career individuals aspiring to serve as administrators in a variety of settings, including colleges and universities, community colleges, higher education systems, proprietary/vocational institutions, and college access and pathway programs. The distinctive feature of the M.Ed. program is its structured concentration design and emphasis on urban issues and themes of equity and access in postsecondary education.

Extending Temple’s traditional commitment to social justice and educational opportunity, this program develops expert practitioners, i.e., those who can enact the kinds of changes that are necessary to meet state and federal college completion goals, improve equity in student postsecondary outcomes, strengthen the role of higher education for the public good, and create structures and cultures that are conducive to student success.

Time Limit for Degree Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program in a hybrid format, both through classes offered after 5:30 p.m. and online courses. The degree program can be completed on a full- or part-time basis.

Areas of Specialization: The program offers concentrations in Access and Success, Institutional Effectiveness, and Student Affairs Leadership.

Job Prospects: Graduates are prepared to seek employment in a variety of professional areas in higher education, including academic advising, academic support, admissions, advancement, athletics, business services, counseling and health services, facilities, financial aid, human resources, institutional research and planning, learning centers, multicultural and diversity affairs, public relations, residence life, and training and development.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:
Fall: March 1
Spring: November 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: In 500 to 1,000 words, outline your interest in seeking a master's degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores:
Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 79 iBT or 550 PBT
IELTS: 6.5
PTE Academic: 53

Resume: Current resume required.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
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</tbody>
</table>

Core Courses
EDUC 5101 Critical Understanding of Social Science Research 3
HIED 5101 Introduction to Higher Education 3
HIED 5102 Administration of Higher Education 3
HIED 5103 Access and Equity in Higher Education 3
HIED 5104 College Students and Development Theory 3

Concentration Courses
Select the courses identified for the chosen concentration:

Access and Success
HIED 5201 Diversity Issues in Higher Education
HIED 5202 Higher Education Economics and Finance
HIED 5203 Getting into College: Strategic Enrollment Management

Institutional Effectiveness
AOD 5535 Organizational Assessment, Design and Strategy
EDUC 5325 Introduction to Statistics and Research
HIED 5301 Planning and Assessment in Higher Education

Student Affairs Leadership
CPSY 5698 Fundamental Counseling Techniques
HIED 5201 Diversity Issues in Higher Education
HIED 5401 Student Affairs in Higher Education

Elective 1

Capstone Course
HIED 9995 Master's Capstone in Higher Education 3

Total Credit Hours 30

1 One elective is taken to fulfill the requirements for the M.Ed. in Higher Education. The elective must be selected from the lists presented below.

Students may select any course listed in the Free Elective List or the Advisor's Permission List below to fulfill the required 3-credit elective, except for any course already required as part of their chosen concentration.

Free Elective List

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>EPSY 8985</td>
<td>Teaching in Higher Education</td>
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<tr>
<td>HIED 5201</td>
<td>Diversity Issues in Higher Education 1,2</td>
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<tr>
<td>HIED 5202</td>
<td>Higher Education Economics and Finance 1</td>
<td></td>
</tr>
<tr>
<td>HIED 5203</td>
<td>Getting into College: Strategic Enrollment Management 1</td>
<td></td>
</tr>
<tr>
<td>HIED 5301</td>
<td>Planning and Assessment in Higher Education 3</td>
<td></td>
</tr>
<tr>
<td>HIED 5401</td>
<td>Student Affairs in Higher Education 2</td>
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<tr>
<td>HIED 5801</td>
<td>Gender Issues in Education</td>
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<tr>
<td>HIED 5802</td>
<td>Leadership in Higher Education</td>
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<tr>
<td>HIED 5803</td>
<td>Law and Policy in Higher Education</td>
<td></td>
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<tr>
<td>HIED 5804</td>
<td>The Community College</td>
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3 Cannot be selected by students in the Institutional Effectiveness concentration.

Advisor's Permission List

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<thead>
<tr>
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<td>AOD 5524</td>
<td>Sociocultural Dynamics</td>
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<td>AOD 5535</td>
<td>Organizational Assessment, Design and Strategy 1</td>
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<tr>
<td>CPSY 5492</td>
<td>Theories of Counseling Psychology</td>
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<td>CPSY 5526</td>
<td>Multicultural Counseling</td>
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<tr>
<td>CPSY 5571</td>
<td>Introduction to Counseling Psychology</td>
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<tr>
<td>CPSY 5698</td>
<td>Fundamental Counseling Techniques 2</td>
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<tr>
<td>EDUC 5262</td>
<td>Introduction to Qualitative Research</td>
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<tr>
<td>EDUC 5325</td>
<td>Introduction to Statistics and Research 1</td>
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</tr>
<tr>
<td>EPSY 5529</td>
<td>Tests and Measurements</td>
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<tr>
<td>EPSY 8625</td>
<td>Intermediate Educational Statistics</td>
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<tr>
<td>URBE 5515</td>
<td>Service Learning and Community Development</td>
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</tr>
<tr>
<td>URBE 5516</td>
<td>School-Community Partnerships in Urban Settings</td>
<td></td>
</tr>
</tbody>
</table>

1 Cannot be selected by students in the Institutional Effectiveness concentration.
2 Cannot be selected by students in the Student Affairs Leadership concentration.

Culminating Events:
Capstone Course:
Students complete HIED 9995 Master's Capstone in Higher Education as their culminating event.

Contacts
Program Web Address:
https://www.temple.edu/academics/degree-programs/higher-education-med-ed-hied-med

Department Information:
Dept. of Policy, Organizational and Leadership Studies
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
edutio@temple.edu
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
Admissions:
Office of Enrollment Management
edutio@temple.edu
215-204-0999
Higher Education, Ed.D.

COLLEGE OF EDUCATION (http://www.temple.edu/education)


About the Program

The Ed.D. in Higher Education is a rigorous program of study that helps students develop the skills needed to diagnose and resolve organizational challenges and to craft and evaluate programs and policies impacting student success. The program features a core set of courses that reflect the essential values of the Temple University graduate program in higher education and the foundational knowledge, skills, and abilities required for effective postsecondary administrative practice. This program combines the theoretical and methodological foundations of academic research with an applied focus that helps students develop the professional and interpersonal wisdom necessary to successfully manage change within complex organizational structures.

The Higher Education Ed.D. degree prepares its graduates to be not just effective administrators but skillful and visionary leaders. The essential expected learning outcomes of the Ed.D. in Higher Education include:

• Demonstrate advanced understanding of the foundations of higher education, including knowledge of the history, politics, economics, and philosophy of higher education, theories of student development and organizations, and the institutional and social factors that contribute to student success in higher education.

• Demonstrate a disciplined and analytic approach to professional practice in the organization and administration of academic and student affairs, including the use of assessment, evaluation, and research in decision making; the ability to engage in strategic planning and goal setting; the ability to lead with cultural sensitivity and ethical judgment; the ability to understand organizational behavior and dynamics; and the ability to communicate clearly and effectively about complex administrative issues to a wide array of audiences and stakeholders.

• Demonstrate knowledge related to the functional core of the university, including teaching, research, and service; management skills, such as problem solving, planning, budgeting, fundraising, and assessment and evaluation; and human relations skills, such as managing conflict, communicating effectively, valuing diversity, and promoting organizational and individual development.

• Gain a conceptual understanding of higher education organizations when viewed from multiple perspectives, including organizations as academic enterprises, loosely coupled bureaucratic systems, and complex multifarious cultures, and be able to adopt those perspectives as analytic lenses for understanding and addressing administrative issues.

• Demonstrate the ability to select and apply appropriate research and program evaluation designs and methods, including understanding principles of research study design; synthesizing relevant literature from across fields to inform practice and research; articulating and applying theory or conceptual frameworks to support analysis and evaluation; having familiarity with an array of qualitative and quantitative methods and competence in data analysis strategies appropriate for contributing knowledge to advance effective higher education practice; and being competent in academic writing conventions.

• Enact habits of reflective and equity-conscious administrative practitioners, including conducting critical inquiry into issues of inequity or disparities in student access and success; engaging as learning agents on behalf of the institution; and collecting, interpreting, and communicating evidence to substantiate administrative issues.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: Students may matriculate either full-time or part-time. Most courses are offered in the evening to accommodate working professionals. The length of time to complete the doctoral degree program varies depending on the number of courses taken each term.

Affiliation(s): The program is a member of the University Council for Educational Administration (UCEA).

Job Prospects: Graduates typically become senior administrators in public or private schools; administrators in state or federal agencies; and administrators or professors in institutions of higher education.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include assistantships, fellowships, scholarships, tuition remission, graduate student employment, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:

Fall: December 1

Applications are accepted for the Fall term only. Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

Master's Degree in Discipline/Related Discipline: A master's degree in a related field is required. Students will be expected to transfer in up to 30 credits as advanced standing, with approval.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged
to submit transcript(s) to the World Education Services (WES) for evaluation.

**Statement of Goals:** Using autobiographical style, explain your interest in pursuing a doctoral degree in education. The statement should address the following questions:

- How have your personal, academic, and professional experiences shaped your research interests, and how might a doctoral program in Education help you explore those interests?
- What academic/professional goals would the program help you to achieve following graduation?
- How does the doctoral program at Temple fit your individual interests, needs, and future goals – and which faculty member’s research best matches your own interests?

**Standardized Test Scores:**
Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

- TOEFL: 79 iBT or 550 PBT
- IELTS: 6.5
- PTE Academic: 53

**Resume:** Current resume required.

**Writing Sample:** The academic writing sample should be a paper written for a class within the last five years. If a recent paper is not available, the applicant should compose an op-ed piece on an educational issue of her/his choosing. The op-ed should be 400 to 1,200 words in length and of the kind that might appear in *The New York Times* or *Philadelphia Inquirer*.

**Other Requirement:** Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

## Program Requirements

### General Program Requirements:

**Number of Credits Required Beyond the Master’s:** 39

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIED 8101</td>
<td>Advanced Seminar on Higher Education Administration</td>
<td>3</td>
</tr>
<tr>
<td>HIED 8102</td>
<td>Higher Education Economics and Finance</td>
<td>3</td>
</tr>
<tr>
<td>HIED 8103</td>
<td>Equity in Higher Education Policy and Practice</td>
<td>3</td>
</tr>
<tr>
<td>HIED 8104</td>
<td>Seminar on Theory in Higher Education and Leadership (7-week course)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Electives**

<table>
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<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 5262</td>
<td>Introduction to Qualitative Research</td>
</tr>
<tr>
<td>EDUC 5325</td>
<td>Introduction to Statistics and Research</td>
</tr>
<tr>
<td>EPSY 8627</td>
<td>Introduction to Research Design and Methods</td>
</tr>
</tbody>
</table>

In addition, select one course from the following:

- **EPSY 5529** Tests and Measurements
- **EPSY 8625** Intermediate Educational Statistics

### Comprehensive Exam and Dissertation Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>EDUC 9998</td>
<td>Dissertation Proposal Design</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 9999</td>
<td>Doctor of Education Dissertation</td>
<td>3</td>
</tr>
<tr>
<td>HIED 8093</td>
<td>Advanced Higher Education Research Seminar</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credit Hours:** 39

1. Students select a two-course cognate based on their dissertation interests. They should consult with their advisor in the selection of these electives.

2. Students must take the “introductory” versions of the qualitative (EDUC 5262) and quantitative (EDUC 5325) courses before enrolling in more advanced courses for either methodology. A student can be exempted from the introductory courses if program faculty believe the student’s prior coursework warrants an exemption. Approval from the student’s advisor is required.

3. HIED 8093 must be taken during or after the last academic term of coursework.

### Culminating Events:

#### Comprehensive Exam:

At the end of the academic term in which students are enrolled in HIED 8093 Advanced Higher Education Research Seminar and prior to completion of the dissertation proposal, students complete a comprehensive exam in order to advance to candidacy for the doctoral degree. The comprehensive exam consists of written responses to three questions developed by the instructor of the Research Seminar who, in most cases, will serve as the student’s primary dissertation advisor and chair. Through the comprehensive exam, students must demonstrate the ability to:

- situate and define a chosen topic or field within the concepts and history of the field;
- compare, contrast, and justify various research methods appropriate to investigation of a practice-based research problem; and
- critically synthesize the extant scholarly and practice-focused literature that informs administrative practice related to the topic.

Successful completion of the comprehensive exam advances students to doctoral candidate status and aids in preparation of the dissertation proposal.

#### Dissertation Proposal:

In the term immediately following completion of the HIED 8093 Advanced Higher Education Research Seminar and successful completion of the comprehensive exam, students enroll in EDUC 9998 Dissertation Proposal Design. Students enroll in a section of EDUC 9998 with the same cohort of students and instructor with whom they were enrolled in HIED 8093. Like HIED 8093 Advanced Higher Education Research Seminar, EDUC 9998 Dissertation Proposal Design serves as a structured, intensive, cohort-based monthly workshop in which students design and defend a dissertation proposal that outlines a rigorous plan for empirical study of an issue relevant to the student’s professional responsibilities or aspirations. The proposal must incorporate a thorough and critical review of literature relevant to the topic, a discussion of theoretical approaches to understanding and studying the topic, a conceptual or theoretical framework that will guide the study, and a robust methodological plan that includes assurances of completing IRB.
review and any interview or other protocols necessary to submit for IRB review. Dissertations proposal defense occurs at any point during or at the end of the academic term and students receive feedback from the faculty advisor, other committee members, and their cohort peers during their defense. Students will be encouraged to defend the proposal no later than the end of the term in which they are enrolled in EDUC 9998.

**Dissertation:**
The Ed.D. dissertation is distinct from the Ph.D. dissertation in that the intent of the Ed.D. dissertation is not to build theory but to make a substantive contribution to practice-focused scholarship in a particular domain of higher education. Ed.D. dissertations are typically less lengthy than Ph.D. dissertations and cover a smaller scope of theorizing and data collection. They are, however, held to the same standards as Ph.D. dissertations with respect to methodological validity, data analysis, and writing quality and clarity. Toward this end, Ed.D. students:

- prepare a dissertation study report that is a standard academic manuscript, which includes an introduction, literature review, conceptual/theoretical framework, methodology, results, discussion, and references; and
- produce a Practice Guide that is three to five pages in length. The Practice Guide distills the lessons of the student’s research into succinct recommendations or best practices for practitioners in her/his field.

**Contacts**

**Program Web Address:**
https://www.temple.edu/academics/degree-programs/higher-education-edd-ed-hied-edd

**Department Information:**
Higher Education Program  
College of Education  
1301 Cecil B. Moore Avenue  
Philadelphia, PA 19122-6091  
educate@temple.edu  
215-204-0999

**Submission Address for Application Materials:**
http://apply.temple.edu/coe

**Department Contacts:**
Admissions:
Office of Enrollment Management  
educate@temple.edu  
215-204-0999

**Middle Grades Education/ Language Arts, M.Ed.**

COLLEGE OF EDUCATION (http://education.temple.edu)

Learn more about the Master of Education in Middle Grades Education (https://www.temple.edu/academics/degree-programs/middle-grades-education-med-ed-mgre-med).

**About the Program**
The Middle Grades Education graduate program prepares students for middle-level teaching in grades 4 to 8. Middle grades teachers are increasingly sought out and in high demand in Pennsylvania and across the country.

The College of Education program in Middle Grades Education is designed to ensure that our students graduate highly knowledgeable about learning and teaching as well as committed to pre-adolescent learners from diverse ethnic, economic, and geographic backgrounds. The goal is to produce certified teachers to fill the growing vacancies. Toward that end, our program focuses on building deep content-specific pedagogical knowledge aligned to the breadth of academic standards and the wide-ranging developmental needs of middle grades students.

Our newly designed program stands out as cutting edge because we prepare graduate students to teach in both upper elementary and middle grades classrooms. In addition to becoming certified to teach all elementary subjects in grades 4 to 6, Middle Grades Education students can pursue single or dual certification for seventh and eighth grades in one of the following concentrations:

- Language Arts/English  
- Mathematics  
- Mathematics and Language Arts/English  
- Science  
- Science and Language Arts/English  
- Social Studies

The Middle Grades Education graduate program may be completed for certification only or certification plus a master’s degree. All applicants are initially admitted to the master’s program. After successfully completing the minimum requirements for certification, students may choose to leave the program with certification-only or may elect to continue in the program and complete the additional credit hours and requirements to receive certification and a master’s degree. The program requires a minimum of 25 credits for certification-only and 31 credits for certification plus a master’s degree.

**Time Limit for Degree Completion:** 4 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The degree program can be completed on a full- or part-time basis. Classes are offered to accommodate working adults.

**Accreditation:** The program is approved as a teacher certification program by the Pennsylvania Department of Education (PDE).

**Job Prospects:** Graduates typically pursue teaching positions in elementary or middle schools for grades 4 to 8.

**Licensure:** Upon successful completion of the degree requirements and passing all Praxis™ examinations, candidates may apply for a Pennsylvania Instructional I Teaching Certificate.

**Non-Matriculated Student Policy:** Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. **Students completing non-matriculated**
Courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1  
Spring: November 1  
Summer II: March 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2
From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

Coursework Required for Admission Consideration: Prerequisites for admission to the Middle Grades Education M.Ed. program include courses taken at the undergraduate or graduate level with a grade of "C" or better earned in the following areas:

- At least five courses (or 15 credits) in language arts/English.
- At least two courses (or 6 credits) in the other three content areas (i.e., mathematics, science, or social studies).

Students pursuing a language arts concentration should have at least one composition course and at least one American or British literature course with other credits being at a similar level or beyond. Basic or remedial courses do not count toward the language arts prerequisites.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: In 500 to 1,000 words, outline your interest in seeking a master’s degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores: Praxis II®: Official score report must demonstrate a passing score in the content-area test to gain admission to the program:

- PA Grades 4–8 Subject Concentration: English Language Arts (5156) – 156 minimum score (effective 4/2/12)

For more information on testing requirements for middle grades education, visit http://education.temple.edu/teach/test-requirements-certification-middle-grades-education.

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

- TOEFL: 79 iBT or 550 PBT
- IELTS: 6.5
- PTE Academic: 53

Resume: Current resume required.

Transfer Credit: Courses may be transferred from an accredited institution provided they were completed less than five years ago and are relevant to the program. The academic advisor makes the decision about the relevancy of the courses that the student desires to transfer. The maximum number of credits a student may transfer is 6.

Coursework Waivers: Each student is assigned a faculty advisor at the time of admission. The advisor reviews the student's credentials and determines which, if any, of the required courses can be waived. In general, this waiver covers the beginning-level courses in the program. Waiving a specific requirement, however, does not reduce the total number of credits needed to graduate.

Clearances: A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Program Requirements

General Program Requirements: Number of Credits Required Beyond the Baccalaureate: 31

Required Courses:

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<td>Tech in Classrooms: TPCK 1</td>
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<td>EDUC 5402</td>
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</tr>
<tr>
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<td>Citizenship, Cultures, and Social Studies Education</td>
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</tr>
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<td>Educating Students with Disabilities in Inclusive Settings</td>
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<td>Integrated Literacy and Special Education Practicum</td>
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<td>Foundations of Language Teaching: Meeting the Needs of English Language Learners</td>
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Student Teaching and Seminar

For more information on testing requirements for middle grades education, visit http://education.temple.edu/teach/test-requirements-certification-middle-grades-education.

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

- TOEFL: 79 iBT or 550 PBT
- IELTS: 6.5
- PTE Academic: 53

Resume: Current resume required.

Transfer Credit: Courses may be transferred from an accredited institution provided they were completed less than five years ago and are relevant to the program. The academic advisor makes the decision about the relevancy of the courses that the student desires to transfer. The maximum number of credits a student may transfer is 6.

Coursework Waivers: Each student is assigned a faculty advisor at the time of admission. The advisor reviews the student's credentials and determines which, if any, of the required courses can be waived. In general, this waiver covers the beginning-level courses in the program. Waiving a specific requirement, however, does not reduce the total number of credits needed to graduate.

Clearances: A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Program Requirements

General Program Requirements: Number of Credits Required Beyond the Baccalaureate: 31

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<tr>
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<td>Research Methods and Induction Capstone 1</td>
<td>3</td>
</tr>
</tbody>
</table>
EDUC 5888  Supervised Teaching  4

Total Credit Hours  31

1 Not required for PDE certification without degree.

Culminating Events: Student teaching and its related seminar are the culminating events for this program.

Middle Grades students should take the following Praxis™ test during their student teaching term: Pennsylvania Grades 4-8 Core Assessment (5152).

Contacts

Program Web Address:
https://www.temple.edu/academics/degree-programs/middle-grades-education-med-ed-mgre-med

Department Information:
Dept. of Teaching and Learning
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
Admissions:
Office of Enrollment Management
educate@temple.edu
215-204-0999

Middle Grades Education/Mathematics, M.Ed.

COLLEGE OF EDUCATION (http://education.temple.edu)

Learn more about the Master of Education in Middle Grades Education (https://www.temple.edu/academics/degree-programs/middle-grades-education-med-ed-mgre-med).

About the Program

The Middle Grades Education graduate program prepares students for middle-level teaching in grades 4 to 8. Middle grades teachers, particularly in math and science education, are increasingly sought out and in high demand in Pennsylvania and across the country.

The College of Education program in Middle Grades Education is designed to ensure that our students graduate highly knowledgeable about learning and teaching as well as committed to pre-adolescent learners from diverse ethnic, economic, and geographic backgrounds. The goal is to produce certified teachers to fill the growing vacancies. Toward that end, our program focuses on building deep content-specific pedagogical knowledge aligned to the breadth of academic standards and the wide-ranging developmental needs of middle grades students.

Our newly designed program stands out as cutting edge because we prepare graduate students to teach in both upper elementary and middle grades classrooms. In addition to becoming certified to teach all elementary subjects in grades 4 to 6, Middle Grades Education students can pursue single or dual certification for seventh and eighth grades in one of the following concentrations:

- Language Arts/English
- Mathematics
- Mathematics and Language Arts/English
- Mathematics and Science
- Science
- Science and Language Arts/English
- Social Studies

The Middle Grades Education graduate program may be completed for certification only or certification plus a master's degree. All applicants are initially admitted to the master’s program. After successfully completing the minimum requirements for certification, students may choose to leave the program with certification-only or may elect to continue in the program and complete the additional credit hours and requirements to receive certification and a master's degree. The program requires a minimum of 25 credits for certification-only and 31 credits for certification plus a master's degree.

Time Limit for Degree Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis. Classes are offered to accommodate working adults.

Accreditation: The program is approved as a teacher certification program by the Pennsylvania Department of Education (PDE).

Job Prospects: Graduates typically pursue teaching positions in elementary or middle schools for grades 4 to 8.

Licensure: Upon successful completion of the degree requirements and passing all Praxis™ examinations, candidates may apply for a Pennsylvania Instructional I Teaching Certificate.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1
Summer II: March 1
Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

**APPLY ONLINE to this graduate program.**

**Letters of Reference:**

**Number Required:** 2

**From Whom:** Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

**Coursework Required for Admission Consideration:** Prerequisites for admission to the Middle Grades Education M.Ed. program include courses taken at the undergraduate or graduate level with a grade of "C" or better earned in the following areas:

- At least five courses (or 15 credits) in mathematics.
- At least two courses (or 6 credits) in the other three content areas (i.e., language arts/English, science, or social studies).

Students pursuing a mathematics concentration are advised to have at least three credits of calculus, with other mathematics credits being at a similar level or beyond.

**Bachelor's Degree in Discipline/Related Discipline:** A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

**Statement of Goals:** In 500 to 1,000 words, outline your interest in seeking a master's degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

**Standardized Test Scores:**

**Praxis II:** Official score report must demonstrate a passing score in the content-area test to gain admission to the program:

- PA Grades 4–8 Subject Concentration: Mathematics (5158) – 173 minimum score (effective 4/2/12)

For more information on testing requirements for middle grades education, visit http://education.temple.edu/teach/test-requirements-certification-middle-grades-education.

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

- **TOEFL:** 79 iBT or 550 PBT
- **IELTS:** 6.5
- **PTE Academic:** 53

**Resume:** Current resume required.

**Transfer Credit:** Courses may be transferred from an accredited institution provided they were completed less than five years ago and are relevant to the program. The academic advisor makes the decision about the relevancy of the courses that the student desires to transfer. The maximum number of credits a student may transfer is 6.

**Coursework Waivers:** Each student is assigned a faculty advisor at the time of admission. The advisor reviews the student's credentials and determines which, if any, of the required courses can be waived. In general, this waiver covers the beginning-level courses in the program. Waiving a specific requirement, however, does not reduce the total number of credits needed to graduate.

**Clearances:** A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment.

**Other Requirement:** Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

**Program Requirements**

**General Program Requirements:**

**Number of Credits Required Beyond the Baccalaureate:** 31

**Required Courses:**

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**Student Teaching and Seminar**

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<td>EDUC 5888</td>
<td>Supervised Teaching</td>
<td>4</td>
</tr>
</tbody>
</table>

Total Credit Hours 31

¹ Not required for PDE certification without degree.

**Culminating Events:** Student teaching and its related seminar are the culminating events for this program.

Middle Grades students should take the following Praxis™ test during their student teaching term: Pennsylvania Grades 4-8 Core Assessment (5152).

**Contacts**

**Program Web Address:**

https://www.temple.edu/academics/degree-programs/middle-grades-education-med-ed-mgre-med
Department Information:
Dept. of Teaching and Learning
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
Admissions:
Office of Enrollment Management
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Middle Grades Education/
Mathematics and Language Arts,
M.Ed.

COLLEGE OF EDUCATION (http://education.temple.edu)

Learn more about the Master of Education in Middle Grades Education
(https://www.temple.edu/academics/degree-programs/middle-grades-

About the Program
The Middle Grades Education graduate program prepares students
for middle-level teaching in grades 4 to 8. Middle grades teachers,
particularly in math and science education, are increasingly sought out
and in high demand in Pennsylvania and across the country.

The College of Education program in Middle Grades Education is
designed to ensure that our students graduate highly knowledgeable
about learning and teaching as well as committed to pre-adolescent
learners from diverse ethnic, economic, and geographic backgrounds.
The goal is to produce certified teachers to fill the growing
vacancies. Toward that end, our program focuses on building deep
content-specific pedagogical knowledge aligned to the breadth of
academic standards and the wide-ranging developmental needs of
middle grades students.

Our newly designed program stands out as cutting edge because we
prepare graduate students to teach in both upper elementary and
middle grades classrooms. In addition to becoming certified to teach
all elementary subjects in grades 4 to 6, Middle Grades Education
students can pursue single or dual certification for seventh and
eighth grades in one of the following concentrations:

- Language Arts/English
- Mathematics
- Mathematics and Language Arts/English
- Mathematics and Science
- Science
- Science and Language Arts/English

The Middle Grades Education graduate program may be completed for
certification only or certification plus a master’s degree. All applicants are
initially admitted to the master’s program. After successfully completing
the minimum requirements for certification, students may choose to leave
the program with certification-only or may elect to continue in the program
and complete the additional credit hours and requirements to receive
certification and a master’s degree. The program requires a minimum
of 25 credits for certification-only and 31 credits for certification plus a
master’s degree.

Time Limit for Degree Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on
a full- or part-time basis. Classes are offered to accommodate working
adults.

Accreditation: The program is approved as a teacher certification
program by the Pennsylvania Department of Education (PDE).

Job Prospects: Graduates typically pursue teaching positions in
elementary or middle schools for grades 4 to 8.

Licensure: Upon successful completion of the degree requirements
and passing all Praxis™ examinations, candidates may apply for a
Pennsylvania Instructional I Teaching Certificate.

Non-Matriculated Student Policy: Students may take up to, but not
more than, 9 credits of graduate study in the program before being
admitted to the program. The credits transfer into the program, if
the student is admitted. Students completing non-matriculated
courses before being admitted to the program are NOT guaranteed
admission.

Financing Opportunities: Financial support opportunities may include
scholarships, tuition remission, and other financial aid such as grants,
loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:
Fall: March 1
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Summer II: March 1

Applicants should submit all required admissions documents by the
application deadline to receive priority consideration for admission and
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APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained to provide
insight regarding the applicant’s academic competence. References from
college/university faculty are recommended.

Coursework Required for Admission Consideration: Prerequisites
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courses taken at the undergraduate or graduate level with a grade of "C" or better earned in the following areas:

- At least four courses (or 12 credits) each in the chosen concentration areas of mathematics and language arts.
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Students pursuing mathematics as one of their concentration areas are advised to have at least three credits of calculus, with other mathematics credits being at a similar level or beyond. For the language arts concentration, they should have at least one composition course and at least one American or British literature course with other credits being at a similar level or beyond. Basic or remedial courses do not count toward the language arts prerequisites.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

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Statement of Goals: In 500 to 1,000 words, outline your interest in seeking a master's degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores:

Praxis II®: Official score report must demonstrate a passing score in one content-area test to gain admission to the program. The selected test should correspond to one of the applicant's two chosen areas of specialization:

- PA Grades 4–8 Subject Concentration: English Language Arts (5156) – 156 minimum score (effective 4/2/12)
- PA Grades 4–8 Subject Concentration: Mathematics (5158) – 173 minimum score (effective 4/2/12)

For more information on testing requirements for middle grades education, visit http://education.temple.edu/teach/test-requirements-certification-middle-grades-education.

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

- TOEFL: 79 iBT or 550 PBT
- IELTS: 6.5
- PTE Academic: 53

Resume: Current resume required.

Transfer Credit: Courses may be transferred from an accredited institution provided they were completed less than five years ago and are relevant to the program. The academic advisor makes the decision about the relevancy of the courses that the student desires to transfer. The maximum number of credits a student may transfer is 6.

Coursework Waivers: Each student is assigned a faculty advisor at the time of admission. The advisor reviews the student's credentials and determines which, if any, of the required courses can be waived. In general, this waiver covers the beginning-level courses in the program. Waiving a specific requirement, however, does not reduce the total number of credits needed to graduate.

Clearances: A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 31

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<td>Tech in Classrooms: TPCK ¹</td>
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<td>EDUC 5402</td>
<td>Child and Adolescence Development</td>
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<td>Educating Students with Disabilities in Inclusive Settings</td>
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<td>Integrated Literacy and Special Education Practicum</td>
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<td>Foundations of Language Teaching: Meeting the Needs of English Language Learners</td>
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Time Limit for Degree Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis. Classes are offered to accommodate working adults.

Accreditation: The program is approved as a teacher certification program by the Pennsylvania Department of Education (PDE).

Job Prospects: Graduates typically pursue teaching positions in elementary or middle schools for grades 4 to 8.

Licensure: Upon successful completion of the degree requirements and passing all Praxis™ examinations, candidates may apply for a Pennsylvania Instructional I Teaching Certificate.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:

- Fall: March 1
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Letters of Reference:

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From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

Coursework Required for Admission Consideration: Prerequisites for admission to the Middle Grades Education M.Ed. program include courses taken at the undergraduate or graduate level with a grade of “C” or better earned in the following areas:

- At least four courses (or 12 credits) each in the chosen concentration areas of mathematics and science.
- At least two courses (or 6 credits) in the other content areas (i.e., language arts/English and social studies).

Students pursuing mathematics as one of their concentration areas are advised to have at least three credits of calculus, with other mathematics credits being at a similar level or beyond. For the science concentration,
they are advised to have at least one life science, one earth science, and one physical science course with other science credits being at a similar level or beyond.

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- TOEFL: 79 iBT or 550 PBT
- IELTS: 6.5
- PTE Academic: 53

**Resume:** Current resume required.

**Transfer Credit:** Courses may be transferred from an accredited institution provided they were completed less than five years ago and are relevant to the program. The academic advisor makes the decision about the relevancy of the courses that the student desires to transfer. The maximum number of credits a student may transfer is 6.

**Coursework Waivers:** Each student is assigned a faculty advisor at the time of admission. The advisor reviews the student's credentials and determines which, if any, of the required courses can be waived. In general, this waiver covers the beginning-level courses in the program. Waiving a specific requirement, however, does not reduce the total number of credits needed to graduate.

**Clearances:** A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment.

**Other Requirement:** Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.
Middle Grades Education/Science, M.Ed.

COLLEGE OF EDUCATION (http://education.temple.edu)

Learn more about the Master of Education in Middle Grades Education (https://www.temple.edu/academics/degree-programs/middle-grades-education-med-ed-mgre-med).

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APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

Coursework Required for Admission Consideration: Prerequisites for admission to the Middle Grades Education M.Ed. program include courses taken at the undergraduate or graduate level with a grade of "C" or better earned in the following areas:

- At least five courses (or 15 credits) in science.
- At least two courses (or 6 credits) in the other three content areas (i.e., language arts/English, mathematics, or social studies).

Students pursuing a science concentration are advised to have at least one life science, one earth science, and one physical science course with other science credits being at a similar level or beyond.

Bachelor’s Degree in Discipline/Related Discipline: A bachelor’s degree is required. A minimum UGPA of 3.0 is expected.

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**Standardized Test Scores:**

Praxis II®: Official score report must demonstrate a passing score in the content-area test to gain admission to the program:

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- TOEFL: 79 iBT or 550 PBT
- IELTS: 6.5
- PTE Academic: 53

**Resume:** Current resume required.

**Transfer Credit:** Courses may be transferred from an accredited institution provided they were completed less than five years ago and are relevant to the program. The academic advisor makes the decision about the relevancy of the courses that the student desires to transfer. The maximum number of credits a student may transfer is 6.

**Coursework Waivers:** Each student is assigned a faculty advisor at the time of admission. The advisor reviews the student’s credentials and determines which, if any, of the required courses can be waived. In general, this waiver covers the beginning-level courses in the program. Waiving a specific requirement, however, does not reduce the total number of credits needed to graduate.

**Clearances:** A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment.

**Other Requirement:** Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

**Program Requirements**

**General Program Requirements:**

Number of Credits Required Beyond the Baccalaureate: 31

**Required Courses:**

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SPED 5111 Educating Students with Disabilities in Inclusive Settings 2
SPED 5287 Integrated Literacy and Special Education Practicum 2
TESL 5631 Foundations of Language Teaching: Meeting the Needs of English Language Learners 3

**Student Teaching and Seminar**

EDUC 5409 Research Methods and Induction Capstone ¹ 3
EDUC 5888 Supervised Teaching 4

Total Credit Hours 31

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**Middle Grades Education/Science and Language Arts, M.Ed.**

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<td>EDUC 5402</td>
<td>Child and Adol Develop</td>
<td>3</td>
</tr>
<tr>
<td>MGRE 5101</td>
<td>Citizenship, Cultures, and Social Studies Education</td>
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<tr>
<td>MGRE 5102</td>
<td>Reading and Writing in the Middle Grades</td>
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<tr>
<td>MGRE 5404</td>
<td>Teaching Math in the Middle Grades</td>
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<td>MGRE 5405</td>
<td>Teaching Science in the Middle Grades</td>
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<tr>
<td>SPED 5111</td>
<td>Educating Students with Disabilities in Inclusive Settings</td>
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<td>SPED 5287</td>
<td>Integrated Literacy and Special Education Practicum</td>
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<tr>
<td>TESL 5631</td>
<td>Foundations of Language Teaching: Meeting the Needs of English Language Learners</td>
<td>3</td>
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**Student Teaching and Seminar**

<table>
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<td>EDUC 5409</td>
<td>Research Methods and Induction Capstone (^1)</td>
<td>3</td>
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</tbody>
</table>

\(^1\) Not required for PDE certification without degree.

**Culminating Events:**
Student teaching and its related seminar are the culminating events for this program.

Middle Grades students should take the following Praxis™ test during their student teaching term: Pennsylvania Grades 4-8 Core Assessment (5152).

### Contacts

**Program Web Address:**
https://www.temple.edu/academics/degree-programs/middle-grades-education-med-ed-mgre-med

**Department Information:**

Dept. of Teaching and Learning  
College of Education  
1301 Cecil B. Moore Avenue  
Philadelphia, PA 19122-6091  
educate@temple.edu  
215-204-0999

**Submission Address for Application Materials:**
http://apply.temple.edu/coe

**Department Contacts:**

Admissions:  
Office of Enrollment Management  
educate@temple.edu  
215-204-0999

### Middle Grades Education/Social Studies, M.Ed.

Learn more about the Master of Education in Middle Grades Education (https://www.temple.edu/academics/degree-programs/middle-grades-education-med-ed-mgre-med).

### About the Program

The Middle Grades Education graduate program prepares students for middle-level teaching in grades 4 to 8. Middle grades teachers are increasingly sought out and in high demand in Pennsylvania and across the country.

The College of Education program in Middle Grades Education is designed to ensure that our students graduate highly knowledgeable about learning and teaching as well as committed to pre-adolescent learners from diverse ethnic, economic, and geographic backgrounds. The goal is to produce certified teachers to fill the growing vacancies. Toward that end, our program focuses on building deep content-specific pedagogical knowledge aligned to the breadth of
academic standards and the wide-ranging developmental needs of middle grades students.

Our newly designed program stands out as cutting edge because we prepare graduate students to teach in both upper elementary and middle grades classrooms. In addition to becoming certified to teach all elementary subjects in grades 4 to 6, Middle Grades Education students can pursue single or dual certification for seventh and eighth grades in one of the following concentrations:

- Language Arts/English
- Mathematics
- Mathematics and Language Arts/English
- Mathematics and Science
- Science
- Science and Language Arts/English
- Social Studies

The Middle Grades Education graduate program may be completed for certification only or certification plus a master's degree. All applicants are initially admitted to the master's program. After successfully completing the minimum requirements for certification, students may choose to leave the program with certification-only or may elect to continue in the program and complete the additional credit hours and requirements to receive certification and a master's degree. The program requires a minimum of 25 credits for certification-only and 31 credits for certification plus a master's degree.

**Time Limit for Degree Completion:** 4 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The degree program can be completed on a full- or part-time basis. Classes are offered to accommodate working adults.

**Accreditation:** The program is approved as a teacher certification program by the Pennsylvania Department of Education (PDE).

**Job Prospects:** Graduates typically pursue teaching positions in elementary or middle schools for grades 4 to 8.

**Licensure:** Upon successful completion of the degree requirements and passing all Praxis™ examinations, candidates may apply for a Pennsylvania Instructional I Teaching Certificate.

**Non-Matriculated Student Policy:** Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. *Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.*

**Financing Opportunities:** Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

**Admission Requirements and Deadlines**

**Application Deadline:**

- **Fall:** March 1
- **Spring:** November 1
- **Summer II:** March 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

**APPLY ONLINE to this graduate program.**

**Letters of Reference:**

- **Number Required:** 2

  **From Whom:** Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

**Coursework Required for Admission Consideration:** Prerequisites for admission to the Middle Grades Education M.Ed. program include courses taken at the undergraduate or graduate level with a grade of “C” or better earned in the following areas:

- At least five courses (or 15 credits) in social studies.
- At least two courses (or 6 credits) in the other three content areas (i.e., language arts/English, mathematics, or science).

Students pursuing a social studies concentration are required to have a minimum of two courses in U.S. History, American Government, or World History with other social studies credits being at a similar level or beyond.

**Bachelor's Degree in Discipline/Related Discipline:** A bachelor’s degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

**Statement of Goals:** In 500 to 1,000 words, outline your interest in seeking a master’s degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

**Standardized Test Scores:**

- **Praxis IId:** Official score report must demonstrate a passing score in the content-area test to gain admission to the program:
  - PA Grades 4–8 Subject Concentration: Social Studies (5157) – 150 minimum score (effective 4/2/12)

For more information on testing requirements for middle grades education, visit [http://education.temple.edu/teach/test-requirements-certification-middle-grades-education](http://education.temple.edu/teach/test-requirements-certification-middle-grades-education).

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

- **TOEFL:** 79 iBT or 550 PBT
- **IELTS:** 6.5
- **PTE Academic:** 53

**Resume:** Current resume required.

**Transfer Credit:** Courses may be transferred from an accredited institution provided they were completed less than five years ago and are relevant to the program. The academic advisor makes the decision
about the relevancy of the courses that the student desires to transfer. The maximum number of credits a student may transfer is 6.

**Coursework Waivers:** Each student is assigned a faculty advisor at the time of admission. The advisor reviews the student’s credentials and determines which, if any, of the required courses can be waived. In general, this waiver covers the beginning-level courses in the program. Waiving a specific requirement, however, does not reduce the total number of credits needed to graduate.

**Clearances:** A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment.

**Other Requirement:** Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

**Program Requirements**

**General Program Requirements:**

*Number of Credits Required Beyond the Baccalaureate:* 31

**Required Courses:**

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<tr>
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<tr>
<td>EDUC 5255</td>
<td>Tech in Classrooms: TPCK ¹</td>
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<td>Child and Adol Develop</td>
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<td>Research Methods and Induction Capstone ¹</td>
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<td>EDUC 5888</td>
<td>Supervised Teaching</td>
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¹ Not required for PDE certification without degree.

**Culminating Events:** Student teaching and its related seminar are the culminating events for this program.

Middle Grades students should take the following Praxis™ test during their student teaching term: Pennsylvania Grades 4-8 Core Assessment (5152).

**Contacts**

**Program Web Address:**

https://www.temple.edu/academics/degree-programs/middle-grades-education-med-ed-mgse-med

**Department Information:**

Dept. of Teaching and Learning  
College of Education  
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educate@temple.edu  
215-204-0999

**Submission Address for Application Materials:**

http://apply.temple.edu/coe

**Department Contacts:**

**Admissions:**  
Office of Enrollment Management  
educate@temple.edu  
215-204-0999

**Middle Grades and Special Education/Language Arts, M.Ed.**

COLLEGE OF EDUCATION (http://education.temple.edu)

Learn more about the Master of Education in Middle Grades and Special Education (https://www.temple.edu/academics/degree-programs/middle-grades-and-special-education-med-ed-mgse-med).

**About the Program**

The M.Ed. program in Middle Grades and Special Education prepares students for initial teacher certification in Middle Grades Education (grades 4-8) and Special Education (pre-Kindergarten through grade 8). This program prepares high-quality professional educators who go on to embrace innovation, equity, excellence, and leadership opportunities as teachers in diverse educational settings.

This newly designed program stands out as cutting edge because our graduate students are prepared to teach in both elementary and middle grades classrooms. In addition to becoming certified to teach all elementary subjects in grades 4-6 and special education in pre-K to grade 8, all students pursue certification for grades 7 and 8 in one of the following concentrations:

- Language Arts/English
- Mathematics
- Mathematics and Language Arts/English
- Mathematics and Science
- Science
- Science and Language Arts/English
- Social Studies

Middle grades teachers, particularly those who hold double certifications, are increasingly sought out and in high demand in Pennsylvania as well as across the country. This degree program is designed to ensure not only that there are certified teachers to fill the growing vacancies, but that our students graduate highly knowledgeable about learning and teaching as well as committed to pre-adolescent learners from diverse ethnic, economic, and geographic backgrounds. Toward that end, our program focuses on building deep content-specific pedagogical
knowledge aligned to the breadth of academic standards and the wide-ranging developmental needs of middle grades students.

**Time Limit for Degree Completion:** 4 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The degree program can be completed on a full- or part-time basis. Classes are offered to accommodate working adults.

**Accreditation:** The program is approved as a teacher certification program by the Pennsylvania Department of Education (PDE).

**Job Prospects:** Graduates typically pursue teaching positions in elementary or middle schools for grades 4 to 8.

**Licensure:** Upon successful completion of the degree requirements and passing all Praxis™ examinations, candidates may apply for a Pennsylvania Instructional I Teaching Certificate.

**Non-Matriculated Student Policy:** Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. **Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.**

**Financing Opportunities:** Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

**Admission Requirements and Deadlines**

**Application Deadline:**

- **Fall:** March 1
- **Spring:** November 1
- **Summer II:** March 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

**APPLY ONLINE to this graduate program.**

**Letters of Reference:**

**Number Required:** 2

**From Whom:** Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

**Coursework Required for Admission Consideration:** Prerequisites for admission to the Middle Grades and Special Education M.Ed. program include courses taken at the undergraduate or graduate level with a grade of “C” or better earned in the following areas:

- At least five courses (or 15 credits) in language arts/English.
- At least two courses (or 6 credits) in the other three content areas (i.e., mathematics, science, or social studies).

Students pursuing a language arts concentration should have at least one composition course and at least one American or British literature course with other credits being at a similar level or beyond. Basic or remedial courses do not count toward the language arts prerequisites.

**Bachelor's Degree in Discipline/Related Discipline:** A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

**Statement of Goals:** In 500 to 1,000 words, outline your interest in seeking a master's degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

**Standardized Test Scores:**

**Praxis I™:** Official score report must demonstrate a passing score in the content-area test to gain admission to the program:

- PA Grades 4–8 Subject Concentration: English Language Arts (5156) – 156 minimum score (effective 4/2/12)

For more information on testing requirements for middle grades education, visit http://education.temple.edu/teach/test-requirements-certification-middle-grades-education.

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

- TOEFL: 79 iBT or 550 PBT
- IELTS: 6.5
- PTE Academic: 53

**Resume:** Current resume required.

**Transfer Credit:** Courses may be transferred from an accredited institution provided they were completed less than five years ago and are relevant to the program. The academic advisor makes the decision about the relevancy of the courses that the student desires to transfer. The maximum number of credits a student may transfer is 6.

**Coursework Waivers:** Each student is assigned a faculty advisor at the time of admission. The advisor reviews the student's credentials and determines which, if any, of the required courses can be waived. In general, this waiver covers the beginning-level courses in the program. Waiving a specific requirement, however, does not reduce the total number of credits needed to graduate.

**Clearances:** A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment.

**Other Requirement:** Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

**Program Requirements**

**General Program Requirements:**

**Number of Credits Required Beyond the Baccalaureate:** 43

**Required Courses:**
### Core Courses

<table>
<thead>
<tr>
<th>Code</th>
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<td>EDUC 5402</td>
<td>Child and Adol Develop</td>
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<td>MGRE 5101</td>
<td>Citizenship, Cultures, and Social Studies Education</td>
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### Pedagogy Courses

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<td>MGRE 5405</td>
<td>Teaching Science in the Middle Grades</td>
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<td>SPED 5106</td>
<td>Literacy Instruction for Young Children with Disabilities</td>
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<td>SPED 5666</td>
<td>Inclusive School Practices</td>
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<tr>
<td>TESL 5631</td>
<td>Foundations of Language Teaching: Meeting the Needs of English Language Learners</td>
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### Technology Integration Course

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<td>EDUC 5525</td>
<td>Tech in Classrooms: TPCK</td>
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### Additional Special Education Courses

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<td>Classroom Management and Positive Behavior Support</td>
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<td>SPED 5187</td>
<td>Graduate Assessment Practicum in Early Childhood Special Education</td>
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<td>SPED 5211</td>
<td>Effective Instructional Strategies for Young Children with Disabilities</td>
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### Student Teaching and Seminar

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<td>EDUC 5409</td>
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</tr>
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<td>EDUC 5888</td>
<td>Supervised Teaching</td>
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</tbody>
</table>

Total Credit Hours 43

### Culminating Events: Student teaching and its related seminar are the culminating events for this program.

Middle Grades students should take the following Praxis™ test during their student teaching term: Pennsylvania Grades 4-8 Core Assessment (5152).

### Contacts

**Program Web Address:**

**Department Information:**
Dept. of Teaching and Learning
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

**Submission Address for Application Materials:**
http://apply.temple.edu/coe

**Department Contacts:**
Admissions:
Office of Enrollment Management

---

### Middle Grades and Special Education/Mathematics, M.Ed.

**COLLEGE OF EDUCATION**
Learn more about the Master of Education in Middle Grades and Special Education (https://www.temple.edu/academics/degree-programs/middle-grades-and-special-education-med-ed-mgse-med).

**About the Program**

The M.Ed. program in Middle Grades and Special Education prepares students for initial teacher certification in Middle Grades Education (grades 4-8) and Special Education (pre-Kindergarten through grade 8). This program prepares high-quality professional educators who go on to embrace innovation, equity, excellence, and leadership opportunities as teachers in diverse educational settings.

This newly designed program stands out as cutting edge because our graduate students are prepared to teach in both elementary and middle grades classrooms. In addition to becoming certified to teach all elementary subjects in grades 4-6 and special education in pre-K to grade 8, all students pursue certification for grades 7 and 8 in one of the following concentrations:

- Language Arts/English
- Mathematics
- Mathematics and Language Arts/English
- Mathematics and Science
- Science
- Science and Language Arts/English
- Social Studies

Middle grades teachers, particularly those who hold double certifications, are increasingly sought out and in high demand in Pennsylvania as well as across the country. This degree program is designed to ensure not only that there are certified teachers to fill the growing vacancies, but that our students graduate highly knowledgeable about learning and teaching as well as committed to pre-adolescent learners from diverse ethnic, economic, and geographic backgrounds. Toward that end, our program focuses on building deep content-specific pedagogical knowledge aligned to the breadth of academic standards and the wide-ranging developmental needs of middle grades students.

**Time Limit for Degree Completion:** 4 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The degree program can be completed on a full- or part-time basis. Classes are offered to accommodate working adults.

**Accreditation:** The program is approved as a teacher certification program by the Pennsylvania Department of Education (PDE).

**Job Prospects:** Graduates typically pursue teaching positions in elementary or middle schools for grades 4 to 8.
Licensure: Upon successful completion of the degree requirements and passing all Praxis™ examinations, candidates may apply for a Pennsylvania Instructional I Teaching Certificate.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1
Summer II: March 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

Coursework Required for Admission Consideration: Prerequisites for admission to the Middle Grades and Special Education M.Ed. program include courses taken at the undergraduate or graduate level with a grade of "C" or better earned in the following areas:

- At least five courses (or 15 credits) in mathematics.
- At least two courses (or 6 credits) in the other three content areas (i.e., language arts/English, science, or social studies).

Students pursuing a mathematics concentration are advised to have at least three credits of calculus, with other mathematics credits being at a similar level or beyond.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: In 500 to 1,000 words, outline your interest in seeking a master’s degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores:

Praxis II®: Official score report must demonstrate a passing score in the content-area test to gain admission to the program:

- PA Grades 4–8 Subject Concentration: Mathematics (5158) – 173 minimum score (effective 4/2/12)

For more information on testing requirements for middle grades education, visit http://education.temple.edu/teach/test-requirements-certification-middle-grades-education.

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

- TOEFL: 79 iBT or 550 PBT
- IELTS: 6.5
- PTE Academic: 53

Resume: Current resume required.

Transfer Credit: Courses may be transferred from an accredited institution provided they were completed less than five years ago and are relevant to the program. The academic advisor makes the decision about the relevancy of the courses that the student desires to transfer. The maximum number of credits a student may transfer is 6.

Coursework Waivers: Each student is assigned a faculty advisor at the time of admission. The advisor reviews the student's credentials and determines which, if any, of the required courses can be waived. In general, this waiver covers the beginning-level courses in the program. Waiving a specific requirement, however, does not reduce the total number of credits needed to graduate.

Clearances: A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 43

Required Courses:

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- Science and Language Arts/English
- Social Studies

Middle grades teachers, particularly those who hold double certifications, are increasingly sought out and in high demand in Pennsylvania as well as across the country. This degree program is designed to ensure not only that there are certified teachers to fill the growing vacancies, but that our students graduate highly knowledgeable about learning and teaching as well as committed to pre-adolescent learners from diverse ethnic, economic, and geographic backgrounds. Toward that end, our program focuses on building deep content-specific pedagogical knowledge aligned to the breadth of academic standards and the wide-ranging developmental needs of middle grades students.

Time Limit for Degree Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis. Classes are offered to accommodate working adults.

Accreditation: The program is approved as a teacher certification program by the Pennsylvania Department of Education (PDE).

Job Prospects: Graduates typically pursue teaching positions in elementary or middle schools for grades 4 to 8.

Licensure: Upon successful completion of the degree requirements and passing all Praxis™ examinations, candidates may apply for a Pennsylvania Instructional I Teaching Certificate.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.
Admission Requirements and Deadlines

Application Deadline:

Fall: March 1 
Spring: November 1 
Summer II: March 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

Coursework Required for Admission Consideration: Prerequisites for admission to the Middle Grades and Special Education M.Ed. program include courses taken at the undergraduate or graduate level with a grade of “C” or better earned in the following areas:

- At least four courses (or 12 credits) each in the chosen concentration areas of mathematics and language arts.
- At least two courses (or 6 credits) in the other content areas (i.e., science and social studies).

Students pursuing mathematics as one of their concentration areas are advised to have at least three credits of calculus, with other mathematics credits being at a similar level or beyond. For the language arts concentration, they should have at least one composition course and at least one American or British literature course with other credits being at a similar level or beyond. Basic or remedial courses do not count toward the language arts prerequisites.

Bachelor’s Degree in Discipline/Related Discipline: A bachelor’s degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: In 500 to 1,000 words, outline your interest in seeking a master’s degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores:

Praxis II®: Official score report must demonstrate a passing score in one content-area test to gain admission to the program. The selected test should correspond to one of the applicant’s two chosen areas of specialization:

- PA Grades 4–8 Subject Concentration: Mathematics (5158) – 173 minimum score (effective 4/2/12)

For more information on testing requirements for middle grades education, visit http://education.temple.edu/teach/test-requirements-certification-middle-grades-education.

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 79 iBT or 550 PBT
IELTS: 6.5
PTE Academic: 53

Resume: Current resume required.

Transfer Credit: Courses may be transferred from an accredited institution provided they were completed less than five years ago and are relevant to the program. The academic advisor makes the decision about the relevancy of the courses that the student desires to transfer. The maximum number of credits a student may transfer is 6.

Coursework Waivers: Each student is assigned a faculty advisor at the time of admission. The advisor reviews the student’s credentials and determines which, if any, of the required courses can be waived. In general, this waiver covers the beginning-level courses in the program. Waiving a specific requirement, however, does not reduce the total number of credits needed to graduate.

Clearances: A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 43

Required Courses:

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Total Credit Hours: 43

Culminating Events: Student teaching and its related seminar are the culminating events for this program.

Middle Grades students should take the following Praxis™ test during their student teaching term: Pennsylvania Grades 4-8 Core Assessment (5152).

Contacts

Program Web Address:

Department Information:
Dept. of Teaching and Learning
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

Submission Address for Application Materials:
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Department Contacts:
Admissions:
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215-204-0999

About the Program

The M.Ed. program in Middle Grades and Special Education prepares students for initial teacher certification in Middle Grades Education (grades 4-8) and Special Education (pre-Kindergarten through grade 8).

This program prepares high-quality professional educators who go on to embrace innovation, equity, excellence, and leadership opportunities as teachers in diverse educational settings.

This newly designed program stands out as cutting edge because our graduate students are prepared to teach in both elementary and middle grades classrooms. In addition to becoming certified to teach all elementary subjects in grades 4-6 and special education in pre-K to grade 8, all students pursue certification for grades 7 and 8 in one of the following concentrations:

- Language Arts/English
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Time Limit for Degree Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis. Classes are offered to accommodate working adults.

Accreditation: The program is approved as a teacher certification program by the Pennsylvania Department of Education (PDE).

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Admission Requirements and Deadlines

Application Deadline:
Fall: March 1

COLLEGE OF EDUCATION (http://education.temple.edu)

Learn more about the Master of Education in Middle Grades and Special Education (https://www.temple.edu/academics/degree-programs/middle-grades-and-special-education-med-ed-mgse-med).

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Spring: November 1
Summer II: March 1

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APPLY ONLINE to this graduate program.

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Standardized Test Scores:
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- PA Grades 4–8 Subject Concentration: Mathematics (5158) – 173 minimum score (effective 4/2/12)
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Pedagogy Courses

- MGRE 5102 Reading and Writing in the Middle Grades (3)
- MGRE 5404 Teaching Math in the Middle Grades (3)
- MGRE 5405 Teaching Science in the Middle Grades (3)
- SPED 5106 Literacy Instruction for Young Children with Disabilities (3)
- SPED 5666 Inclusive School Practices (3)
- TESL 5631 Foundations of Language Teaching: Meeting the Needs of English Language Learners (3)

Technology Integration Course

- EDUC 5255 Tech in Classrooms: TPCK (3)

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- SPED 5187 Graduate Assessment Practicum in Early Childhood Special Education (3)
SPED 5211  Effective Instructional Strategies for Young Children with Disabilities  3

Student Teaching and Seminar
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EDUC 5888  Supervised Teaching  4
Total Credit Hours  43

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Middle Grades and Special Education/Science, M.Ed.

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Time Limit for Degree Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis. Classes are offered to accommodate working adults.

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Job Prospects: Graduates typically pursue teaching positions in elementary or middle schools for grades 4 to 8.

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Admission Requirements and Deadlines

Application Deadline:
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Spring: November 1
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Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

Coursework Required for Admission Consideration: Prerequisites for admission to the Middle Grades and Special Education M.Ed. program include courses taken at the undergraduate or graduate level with a grade of “C” or better earned in the following areas:

- At least five courses (or 15 credits) in science.
- At least two courses (or 6 credits) in the other three content areas (i.e., language arts/English, mathematics, or social studies).

Students pursuing a science concentration are advised to have at least one life science, one earth science, and one physical science course with other science credits being at a similar level or beyond.

Bachelor’s Degree in Discipline/Related Discipline: A bachelor’s degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

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Standardized Test Scores:
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• PA Grades 4–8 Subject Concentration: Science (5159) – 156 minimum score (effective 4/2/12)

For more information on testing requirements for middle grades education, visit [http://education.temple.edu/teach/test-requirements-certification-middle-grades-education](http://education.temple.edu/teach/test-requirements-certification-middle-grades-education).

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 79 iBT or 550 PBT
IELTS: 6.5
PTE Academic: 53

**Resume:** Current resume required.

**Transfer Credit:** Courses may be transferred from an accredited institution provided they were completed less than five years ago and are relevant to the program. The academic advisor makes the decision about the relevancy of the courses that the student desires to transfer. The maximum number of credits a student may transfer is 6.

**Coursework Waivers:** Each student is assigned a faculty advisor at the time of admission. The advisor reviews the student’s credentials and determines which, if any, of the required courses can be waived. In general, this waiver covers the beginning-level courses in the program.

Waiving a specific requirement, however, does not reduce the total number of credits needed to graduate.

**Clearances:** A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment.

**Other Requirement:** Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

## Program Requirements

**General Program Requirements:**

*Number of Credits Required Beyond the Baccalaureate:* 43

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC</td>
<td>Child and Adol Develop</td>
<td>3</td>
</tr>
<tr>
<td>MGRE</td>
<td>Citizenship, Cultures, and Social Studies Education</td>
<td>3</td>
</tr>
<tr>
<td>MGRE</td>
<td>Reading and Writing in the Middle Grades</td>
<td>3</td>
</tr>
<tr>
<td>MGRE</td>
<td>Teaching Math in the Middle Grades</td>
<td>3</td>
</tr>
<tr>
<td>MGRE</td>
<td>Teaching Science in the Middle Grades</td>
<td>3</td>
</tr>
<tr>
<td>SPED</td>
<td>Literacy Instruction for Young Children with Disabilities</td>
<td>3</td>
</tr>
<tr>
<td>SPED</td>
<td>Inclusive School Practices</td>
<td>3</td>
</tr>
<tr>
<td>TESL</td>
<td>Foundations of Language Teaching: Meeting the Needs of English Language Learners</td>
<td>3</td>
</tr>
<tr>
<td>EDUC</td>
<td>Tech in Classrooms: TPCK</td>
<td>3</td>
</tr>
<tr>
<td>SPED</td>
<td>Classroom Management and Positive Behavior Support</td>
<td>3</td>
</tr>
<tr>
<td>SPED</td>
<td>Graduate Assessment Practicum in Early Childhood Special Education</td>
<td>3</td>
</tr>
<tr>
<td>SPED</td>
<td>Effective Instructional Strategies for Young Children with Disabilities</td>
<td>3</td>
</tr>
</tbody>
</table>

**Technology Integration Course**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC</td>
<td>Research Methods and Induction Capstone</td>
<td>3</td>
</tr>
<tr>
<td>EDUC</td>
<td>Supervised Teaching</td>
<td>4</td>
</tr>
</tbody>
</table>

**Student Teaching and Seminar**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC</td>
<td>Classroom Management and Positive Behavior Support</td>
<td>3</td>
</tr>
<tr>
<td>EDUC</td>
<td>Graduate Assessment Practicum in Early Childhood Special Education</td>
<td>3</td>
</tr>
<tr>
<td>SPED</td>
<td>Effective Instructional Strategies for Young Children with Disabilities</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credit Hours**

**Culminating Events:** Student teaching and its related seminar are the culminating events for this program.

Middle Grades students should take the following *Praxis* test during their student teaching term: Pennsylvania Grades 4-8 Core Assessment (5152).

## Contacts

**Program Web Address:**

Middle Grades and Special Education/Social Studies, M.Ed.

COLLEGE OF EDUCATION (http://education.temple.edu)

Learn more about the Master of Education in Middle Grades and Special Education (https://www.temple.edu/academics/degree-programs/middle-grades-and-special-education-med-ed-mgse-med).

About the Program

The M.Ed. program in Middle Grades and Special Education prepares students for initial teacher certification in Middle Grades Education (grades 4-8) and Special Education (pre-Kindergarten through grade 8). This program prepares high-quality professional educators who go on to embrace innovation, equity, excellence, and leadership opportunities as teachers in diverse educational settings.

This newly designed program stands out as cutting edge because our graduate students are prepared to teach in both elementary and middle grades classrooms. In addition to becoming certified to teach all elementary subjects in grades 4-6 and special education in pre-K to grade 8, all students pursue certification for grades 7 and 8 in one of the following concentrations:

- Language Arts/English
- Mathematics
- Mathematics and Language Arts/English
- Mathematics and Science
- Science
- Science and Language Arts/English
- Social Studies

Middle grades teachers, particularly those who hold double certifications, are increasingly sought out and in high demand in Pennsylvania as well as across the country. This degree program is designed to ensure not only that there are certified teachers to fill the growing vacancies, but that our students graduate highly knowledgeable about learning and teaching as well as committed to pre-adolescent learners from diverse ethnic, economic, and geographic backgrounds. Toward that end, our program focuses on building deep content-specific pedagogical knowledge aligned to the breadth of academic standards and the wide-ranging developmental needs of middle grades students.

Time Limit for Degree Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis. Classes are offered to accommodate working adults.

Accreditation: The program is approved as a teacher certification program by the Pennsylvania Department of Education (PDE).

Job Prospects: Graduates typically pursue teaching positions in elementary or middle schools for grades 4 to 8.

Licensure: Upon successful completion of the degree requirements and passing all Praxis™ examinations, candidates may apply for a Pennsylvania Instructional I Teaching Certificate.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:

- Fall: March 1
- Spring: November 1
- Summer II: March 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

Coursework Required for Admission Consideration: Prerequisites for admission to the Middle Grades and Special Education M.Ed. program include courses taken at the undergraduate or graduate level with a grade of "C" or better earned in the following areas:

- At least five courses (or 15 credits) in social studies.
- At least two courses (or 6 credits) in the other three content areas (i.e., language arts/English, mathematics, or science).

Students pursuing a social studies concentration are required to have a minimum of two courses in U.S. History, American Government, or World History with other social studies credits being at a similar level or beyond.
Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: In 500 to 1,000 words, outline your interest in seeking a master's degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores:

Praxis II®: Official score report must demonstrate a passing score in the content-area test to gain admission to the program:

- PA Grades 4–8 Subject Concentration: Social Studies (5157) – 150 minimum score (effective 4/2/12)

For more information on testing requirements for middle grades education, visit http://education.temple.edu/teach/test-requirements-certification-middle-grades-education.

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 79 iBT or 550 PBT
IELTS: 6.5
PTE Academic: 53

Resume: Current resume required.

Transfer Credit: Courses may be transferred from an accredited institution provided they were completed less than five years ago and are relevant to the program. The academic advisor makes the decision about the relevancy of the courses that the student desires to transfer. The maximum number of credits a student may transfer is 6.

Coursework Waivers: Each student is assigned a faculty advisor at the time of admission. The advisor reviews the student's credentials and determines which, if any, of the required courses can be waived. In general, this waiver covers the beginning-level courses in the program. Waiving a specific requirement, however, does not reduce the total number of credits needed to graduate.

Clearances: A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 43

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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</tr>
</thead>
<tbody>
<tr>
<td>EDUC 5402</td>
<td>Child and Adol Develop</td>
<td>3</td>
</tr>
<tr>
<td>MGRE 5101</td>
<td>Citizenship, Cultures, and Social Studies Education</td>
<td>3</td>
</tr>
<tr>
<td>MGRE 5102</td>
<td>Reading and Writing in the Middle Grades</td>
<td>3</td>
</tr>
<tr>
<td>MGRE 5404</td>
<td>Teaching Math in the Middle Grades</td>
<td>3</td>
</tr>
<tr>
<td>MGRE 5405</td>
<td>Teaching Science in the Middle Grades</td>
<td>3</td>
</tr>
<tr>
<td>SPED 5106</td>
<td>Literacy Instruction for Young Children with Disabilities</td>
<td>3</td>
</tr>
<tr>
<td>SPED 5666</td>
<td>Inclusive School Practices</td>
<td>3</td>
</tr>
<tr>
<td>TESL 5631</td>
<td>Foundations of Language Teaching: Meeting the Needs of English Language Learners</td>
<td>3</td>
</tr>
</tbody>
</table>

Technology Integration Course

EDUC 5255 | Tech in Classrooms: TPCK                            | 3            |

Additional Special Education Courses

SPED 5109 | Classroom Management and Positive Behavior Support | 3            |
| SPED 5187 | Graduate Assessment Practicum in Early Childhood Special Education | 3            |
| SPED 5211 | Effective Instructional Strategies for Young Children with Disabilities | 3            |

Student Teaching and Seminar

EDUC 5409 | Research Methods and Induction Capstone            | 3            |
EDUC 5888 | Supervised Teaching                                 | 4            |

Total Credit Hours 43

Culminating Events: Student teaching and its related seminar are the culminating events for this program.

Middle Grades students should take the following Praxis™ test during their student teaching term: Pennsylvania Grades 4-8 Core Assessment (5152).

Contacts

Program Web Address:

Department Information:
Dept. of Teaching and Learning
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
Admissions:
Office of Enrollment Management
Policy and Organizational Studies, Ph.D.

COLLEGE OF EDUCATION (https://education.temple.edu)


About the Program

The Ph.D. in Policy and Organizational Studies is designed to prepare students for research-oriented work in the academy or other settings within the fields of education policy or organizational development. This program is structured to highlight the interdisciplinary nature of the fields and to build on the unique characteristics of Temple University, including its status as a diverse urban institution that emphasizes user-inspired, social justice-oriented, and community-connected scholarship.

The 48-credit post-master's doctoral program includes rigorous study of the theoretical and methodological foundations of Policy and Organizational Studies research combined with a focus on three specialized facets of the policy and organizational fields: Adult and Organizational Development, Higher Education, and Urban Education. The Ph.D. in Policy and Organizational Studies is designed to be completed in four years.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: Students may matriculate either full-time or part-time. Most courses are offered in the evening to accommodate working professionals. The length of time to complete the doctoral degree program varies depending on the number of courses taken each term.

Areas of Specialization: The program offers three areas of concentration:
- Adult and Organizational Development
- Higher Education
- Urban Education

Job Prospects: Graduates are prepared for research-focused careers in academia and other institutions.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include assistantships, fellowships, scholarships, tuition remission, graduate student employment, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:

Fall: December 1

Applications are accepted for the Fall term only. Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

Master's Degree in Discipline/Related Discipline: Students who hold a master's degree in a related field may transfer in up to 30 credits as advanced standing, with approval.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: Using autobiographical style, explain your interest in pursuing a doctoral degree in education. The statement should address the following questions:

• How have your personal, academic, and professional experiences shaped your research interests, and how might a doctoral program in Policy and Organizational Studies help you explore those interests?
• What academic and professional goals would the program help you to achieve upon graduating?
• How does the doctoral program at Temple fit your individual interests, needs, and future goals – and which faculty member's research best matches your own interests?

Standardized Test Scores:

GRE: Official scores are required to be reported from the test taken no more than 5 years prior to submitting an application.

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 100 iBT or 600 PBT
IELTS: 7.0
PTE Academic: 68

Resume: Current resume required.

Writing Sample: The academic writing sample should be a paper written for a class within the last five years. If a recent paper is not available, the applicant should compose an op-ed piece on an educational issue of her/his choosing. The op-ed should be 400 to 1,200 words in length and of the kind that might appear in The New York Times or Philadelphia Inquirer.
Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

**Program Requirements**

**General Program Requirements:**  
*Number of Credits Required Beyond the Master's: 48*

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Core Courses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDUC 5262</td>
<td>Introduction to Qualitative Research</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 8402</td>
<td>Policy Analysis</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 8403</td>
<td>Understanding Social Science</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 8404</td>
<td>Quantitative Analysis, Part I</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 8405</td>
<td>Quantitative Analysis, Part II</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 9987</td>
<td>Teaching Apprenticeship</td>
<td>3</td>
</tr>
<tr>
<td>EPSY 8627</td>
<td>Introduction to Research Design and Methods</td>
<td>3</td>
</tr>
<tr>
<td><strong>Concentration Courses</strong></td>
<td></td>
<td>18</td>
</tr>
</tbody>
</table>

See the requirements in the course grids below for each of the 3 Ph.D. concentrations.

**Culminating Courses**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 9991</td>
<td>Dissertation Proposal Design</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 9999</td>
<td>Doctor of Education Dissertation</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours: 48

1 Of the 6 credits overall, a minimum of 2 credits of EDUC 9999 must be taken.

The additional course requirements for the 3 Ph.D. concentrations are identified in the following course grids:

**Adult and Organizational Development**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AOD 8101</td>
<td>Training and Organizational Development: Theory and Research</td>
<td>3</td>
</tr>
<tr>
<td>EDAD 8775</td>
<td>Understanding Organizational Dynamics in Educational Settings</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 9991</td>
<td>Research Apprenticeship</td>
<td>3</td>
</tr>
<tr>
<td>Select one from the following courses:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AOD 5402</td>
<td>Communication and Conflict</td>
<td>3</td>
</tr>
<tr>
<td>AOD 5404</td>
<td>Organizational Communication</td>
<td>3</td>
</tr>
<tr>
<td>AOD 5516</td>
<td>Negotiation Processes</td>
<td>3</td>
</tr>
<tr>
<td>AOD 5518</td>
<td>Third-Party Conflict Intervention</td>
<td>3</td>
</tr>
<tr>
<td>AOD 5527</td>
<td>Training Design and Delivery</td>
<td>3</td>
</tr>
<tr>
<td>AOD 5533</td>
<td>Team Development</td>
<td>3</td>
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<tr>
<td>Select one from the following courses:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HRM 9001</td>
<td>Managing Human Resources</td>
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<tr>
<td>HRM 9002</td>
<td>Managing Work Behavior and Attitude</td>
<td>3</td>
</tr>
<tr>
<td>HRM 9003</td>
<td>Organization and Environment</td>
<td>3</td>
</tr>
<tr>
<td>HRM 9004</td>
<td>Dynamics of Organizational Interaction</td>
<td>3</td>
</tr>
<tr>
<td>SOC 5341</td>
<td>Political Sociology</td>
<td>3</td>
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</table>

**Higher Education**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 9991</td>
<td>Research Apprenticeship</td>
<td>3</td>
</tr>
<tr>
<td>HIED 8101</td>
<td>Advanced Seminar on Higher Education Administration</td>
<td>3</td>
</tr>
<tr>
<td>HIED 8102</td>
<td>Higher Education Economics and Finance</td>
<td>3</td>
</tr>
<tr>
<td>HIED 8103</td>
<td>Equity in Higher Education Policy and Practice</td>
<td>3</td>
</tr>
<tr>
<td>HIED 8104</td>
<td>Seminar on Theory in Higher Education and Leadership</td>
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<tr>
<td>Elective</td>
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</tbody>
</table>

Total Credit Hours: 18

**Urban Education**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 9991</td>
<td>Research Apprenticeship</td>
<td>3</td>
</tr>
<tr>
<td>URBE 5417</td>
<td>The Urban Environment</td>
<td>3</td>
</tr>
<tr>
<td>URBE 5501</td>
<td>Urban Schools</td>
<td>3</td>
</tr>
<tr>
<td>URBE 5565</td>
<td>The Origins of Urban Education</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Theory Elective</td>
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<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours: 18

**Culminating Events:**

**Comprehensive Examination:**  
Students are required to complete their comprehensive examination by the end of their second year of doctoral studies. The specific nature of the examination is determined by the concentration selected by the student, but all comprehensive examinations will require students to demonstrate proficiency in theory, research methodology, and discipline-specific content.

**Proposal with Oral Defense:**  
The dissertation proposal demonstrates the student's knowledge of and ability to conduct the proposed research. Minimally, the proposal should contain the context and background surrounding a particular research problem; a survey and review of the literature to a sufficient degree to provide the reader with enough information to understand why the research is being conducted; a detailed methodological plan for investigating the problem; and a proposed timeline for completing the dissertation. The Doctoral Advisory Committee must approve the student's proposal, which is presented at a formal proposal defense.

**Dissertation with Oral Defense:**  
The doctoral dissertation is an original piece of scholarship that makes a significant contribution to the field of Policy and Organizational Studies. A successful dissertation will be publishable in a refereed journal.

The Doctoral Advisory Committee oversees all aspects of the student's dissertation from the proposal to the oral defense. It is composed of three members of the Graduate Faculty. A member of the Policy, Organizational and Leadership Studies faculty typically chairs the
committee. At least one faculty member from outside the program must be on the committee. The student chooses her/his committee in consultation with the selected chair. A student may petition for a change of chairperson or member of the Doctoral Advisory Committee. This petition must be approved by the Department Chair and by the Associate Dean for Academic Affairs and Graduate Studies. Complete details about the dissertation process are available in the College of Education Dissertation Handbook, which is available from the Dean's office.

The Dissertation Examining Committee evaluates the student’s dissertation and oral defense. It is composed of the three members of the Doctoral Advisory Committee plus one additional faculty member, i.e., an outside examiner. One member may be assigned by the Associate Dean for Academic Affairs and Graduate Studies. The Dissertation Examining Committee evaluates the dissertation and the student’s ability to defend it. The committee votes to pass or fail the dissertation. The outcome of the defense is determined by majority vote.

Students who are preparing to defend their dissertation must confirm a date and time with the Dissertation Examining Committee. Notification of the date and time must then be submitted on the appropriate College form to the Associate Dean for Academic Affairs and Graduate Studies no less than 3 weeks prior to the oral defense. The announcement of the oral defense is sent by the Associate Dean to the Graduate School no less than 10 days prior to the defense. A copy of the announcement is also sent to each member of the Dissertation Examining Committee and is posted on the bulletin board in the Office of Student Services of the College of Education.

Contacts

Program Web Address:
https://www.temple.edu/academics/degree-programs/policy-and-organizational-studies-phd-ed-pos-phd

Department Information:
POLS Ph.D. Program
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
Admissions:
Office of Enrollment Management
educate@temple.edu
215-204-0999

School Leadership/Curriculum Supervision, M.Ed.

COLLEGE OF EDUCATION (https://education.temple.edu)


About the Program

The M.Ed. in School Leadership prepares educators with the advanced knowledge and skills needed to lead in urban schools. Students are prepared to tackle the unique challenges of educating children in high need environments. Coursework includes opportunities to learn and explore with other committed professionals who are dedicated to the success of all teachers and all students.

The Curriculum Supervision concentration prepares students to become a district-wide specialist in curriculum and instruction across the total grade organization. Students who successfully complete all program requirements also satisfy the academic requirements for an administrative certificate in Pennsylvania. In addition to the academic requirements, the Pennsylvania Department of Education requires candidates to pass the Praxis® 5411 – Educational Leadership: Administration and Supervision. After all academic requirements are met and the scores from the Praxis® are reported, the College of Education endorses the successful candidate for certification.

Time Limit for Degree Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program in a hybrid format, both through classes offered after 5:30 p.m. and online courses. The degree program can be completed on a full- or part-time basis.

Areas of Specialization: The program offers three areas of concentration:

- Curriculum Supervision
- Principal Leadership
- Reform and Change Leadership

Job Prospects: Graduates are prepared to step forward to lead schools as principals curriculum supervisors.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:
Fall: March 1
Spring: November 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.
APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: In 500 to 1,000 words, outline your interest in seeking a master's degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores:
Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 79 iBT or 550 PBT
IELTS: 6.5
PTE Academic: 53

Resume: Current resume required.

Other Requirements:
1. Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned
2. A copy of a valid Pennsylvania Teaching Certification

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>EDAD 5300</td>
<td>Intro Issues Sch Ldship</td>
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<td>EDAD 5301</td>
<td>Leadership for Learning</td>
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<tr>
<td>EDAD 5303</td>
<td>Ldshp in Diverse Context</td>
<td>3</td>
</tr>
<tr>
<td>EDAD 5304</td>
<td>Sch Operations, Mgmt, Tech</td>
<td>3</td>
</tr>
<tr>
<td>EDAD 5305</td>
<td>Knowledge Sch Improve</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 5101</td>
<td>Critical Understanding of Social Science Research</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives 6

Select two of the following approved courses:

EDAD 5063  Educational Reform
EDAD 5615  Gender Issues in Education
EDAD 5652  Educational Policy: Decision Making
EDAD 5742  Pro-Seminar in Ed Policy

Internship: For certification, an internship providing administrative experience in an approved setting must be completed. EDAD 9285 and EDAD 9286 are each taken for 3 credits.

Culminating Events:

Internship:
The administrative internship constitutes the culminating event for the School Leadership M.Ed. program with a concentration in Curriculum Supervision.

Contacts

Program Web Address:
https://www.temple.edu/academics/degree-programs/school-leadership-med-ed-schl-med

Department Information:

Dept. of Policy, Organizational and Leadership Studies
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:

Admissions:
Office of Enrollment Management
educate@temple.edu
215-204-0999

School Leadership/Principal Leadership, M.Ed.

COLLEGE OF EDUCATION (https://education.temple.edu)


About the Program

The M.Ed. in School Leadership prepares educators with the advanced knowledge and skills needed to lead in urban schools. Students are prepared to tackle the unique challenges of educating children in high need environments. Coursework includes opportunities to learn and explore with other committed professionals who are dedicated to the success of all teachers and all students.
The Principal Leadership concentration prepares individuals to serve as principals and assistant principals; provides insight into the purposes and processes of schools; and demonstrates the expertise necessary to lead and administer a school community. This concentration meets state educational requirements for certification as a principal, with its courses approved by the Pennsylvania Department of Education.

**Time Limit for Degree Completion:** 4 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** Students complete the degree program in a hybrid format, both through classes offered after 5:30 p.m. and online courses. The degree program can be completed on a full- or part-time basis.

**Areas of Specialization:** The program offers three areas of concentration:
- Curriculum Supervision
- Principal Leadership
- Reform and Change Leadership

**Job Prospects:** Graduates are prepared to step forward to lead schools and communities as principals and school superintendents.

**Non-Matriculated Student Policy:** Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

**Financing Opportunities:** Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

### Admission Requirements and Deadlines

**Application Deadline:**

- **Fall:** March 1
- **Spring:** November 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

*APPLY ONLINE to this graduate program.*

**Letters of Reference:**

- **Number Required:** 2
- **From Whom:** Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

**Bachelor’s Degree in Discipline/Related Discipline:** A bachelor’s degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

**Statement of Goals:** In 500 to 1,000 words, outline your interest in seeking a master’s degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

**Standardized Test Scores:**

- Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:
  - TOEFL: 79 iBT or 550 PBT
  - IELTS: 6.5
  - PTE Academic: 53

**Resume:** Current resume required.

**Other Requirements:**

1. Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned
2. A copy of a valid Pennsylvania Teaching Certification

### Program Requirements

**General Program Requirements:**

*Number of Credits Required Beyond the Baccalaureate: 30*

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDAD 5300</td>
<td>Intro Issues Sch Ldship</td>
<td>3</td>
</tr>
<tr>
<td>EDAD 5301</td>
<td>Leadership for Learning</td>
<td>3</td>
</tr>
<tr>
<td>EDAD 5303</td>
<td>Ldship in Diverse Context</td>
<td>3</td>
</tr>
<tr>
<td>EDAD 5304</td>
<td>Sch Operations, Mgmt, Tech</td>
<td>3</td>
</tr>
<tr>
<td>EDAD 5305</td>
<td>Knowledge Sch Improve</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 5101</td>
<td>Critical Understanding of Social Science Research</td>
<td>3</td>
</tr>
</tbody>
</table>

**Principal Leadership Concentration Courses**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDAD 5302</td>
<td>Contexts for Sch Reform</td>
<td>3</td>
</tr>
<tr>
<td>EDAD 5306</td>
<td>Change Leadership</td>
<td>3</td>
</tr>
<tr>
<td>EDAD 5307</td>
<td>Cln Exp in Sch Ldship</td>
<td>3</td>
</tr>
<tr>
<td>EDAD 5308</td>
<td>Clinical Experiences in School Leadership 2</td>
<td>3</td>
</tr>
</tbody>
</table>

**International:**

For certification, an internship providing clinical experience in an approved setting must be completed. EDAD 5307 and EDAD 5308 are each taken for 3 credits.

**Culminating Events:**

*Internship:*

The clinical internship constitutes the culminating event for the School Leadership M.Ed. program with a concentration in Principal Leadership.

**Contacts**

**Program Web Address:**

https://www.temple.edu/academics/degree-programs/school-leadership-med-ed-schl-med
Department Information:
Dept. of Policy, Organizational and Leadership Studies
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
Admissions:
Office of Enrollment Management
educate@temple.edu
215-204-0999

School Leadership/Reform and Change Leadership, M.Ed.

COLLEGE OF EDUCATION (https://education.temple.edu)

About the Program
The M.Ed. in School Leadership prepares educators with the advanced knowledge and skills needed to lead in urban schools. Students are prepared to tackle the unique challenges of educating children in high need environments. Coursework includes opportunities to learn and explore with other committed professionals who are dedicated to the success of all teachers and all students.

The Reform and Change Leadership concentration is designed for those who do not wish to pursue curriculum supervision or principal leadership. This concentration prepares students to become agents of change in their schools and districts. Elective coursework provides students with the opportunity to take courses that meet their interests.

Time Limit for Degree Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program in a hybrid format, both through classes offered after 5:30 p.m. and online courses. The degree program can be completed on a full- or part-time basis.

Areas of Specialization: The program offers three areas of concentration:
- Curriculum Supervision
- Principal Leadership
- Reform and Change Leadership

Job Prospects: Graduates are prepared to step forward to lead schools and communities.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:
Fall: March 1
Spring: November 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: In 500 to 1,000 words, outline your interest in seeking a master's degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores:
Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:
- TOEFL: 79 iBT or 550 PBT
- IELTS: 6.5
- PTE Academic: 53

Resume: Current resume required.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:
## Core Courses
- **EDAD 5300**: Intro Issues Sch Ldship 3
- **EDAD 5301**: Leadership for Learning 3
- **EDAD 5303**: Ldshp in Diverse Context 3
- **EDAD 5304**: Sch Operations, Mgmt, Tech 3
- **EDAD 5305**: Knowledge Sch Improve 3
- **EDUC 5101**: Critical Understanding of Social Science Research 3

## Electives
Select two of the following approved courses:
- **EDAD 5063**: Educational Reform
- **EDAD 5615**: Gender Issues in Education
- **EDAD 5652**: Educational Policy: Decision Making
- **EDAD 5742**: Pro-Seminar in Ed Policy
- **EDAD 5895**: School Violence: Risk Prevention
- **EDAD 8553**: Democratic, Equitable, and Ethical Leadership
- **URBE 5401**: Policy and Practice in Urban Education

## Reform and Change Leadership Concentration Courses
- **EDAD 5302**: Contexts for Sch Reform 3
- **EDAD 5306**: Change Leadership 3

Total Credit Hours: 30

## Culminating Events:
There is no culminating event for the School Leadership M.Ed. program with a concentration in Reform and Change Leadership.

## Contacts
### Program Web Address:
https://www.temple.edu/academics/degree-programs/school-leadership-med-ed-schl-med

### Department Information:
Dept. of Policy, Organizational and Leadership Studies  
College of Education  
1301 Cecil B. Moore Avenue  
Philadelphia, PA 19122-6091  
educate@temple.edu  
215-204-0999

### Submission Address for Application Materials:
http://apply.temple.edu/coe

### Department Contacts:
**Admissions:**  
Office of Enrollment Management  
educate@temple.edu  
215-204-0999

## School Psychology, Ed.S.

COLLEGE OF EDUCATION (http://education.temple.edu)


### About the Program
The Ed.S. is a rigorous graduate degree program that meets the requirements for certification as a school psychologist in Pennsylvania and New Jersey. Students who apply directly from a bachelor's degree can earn an M.Ed. after completion of 30 credits toward the Ed.S. In addition to required coursework, students must also complete an annual portfolio, required practicum placements, and a 1,200-hour internship in a school setting.

**Time Limit for Degree Completion:** 4 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The program is designed to be completed in three years of full-time study, with the third year being a full-time internship.

**Accreditation:** The program is accredited by the National Association of School Psychologists and the Pennsylvania Department of Education.

**Job Prospects:** Graduates are employed in public and private schools.

**Licensure:** Graduates can become Nationally Certified School Psychologists. Certification in School Psychology is awarded after completing the internship and passing the examinations required by the Commonwealth of Pennsylvania. Some states will certify without the examinations.

**Non-Matriculated Student Policy:** Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. **Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.**

**Financing Opportunities:** Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

### Admission Requirements and Deadlines

**Application Deadline:**  
Fall: February 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

**APPLY ONLINE to this graduate program.**

**Letters of Reference:**
**Number Required:** 2

**From Whom:** Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

**Bachelor's Degree in Discipline/Related Discipline:** A bachelor's degree is required. A minimum UGPA of 3.0 is expected.
International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: In two to three pages, indicate your goals and objectives in obtaining a specialist degree and certification as a school psychologist, as well as your reason for seeking certification with a specific focus on the career to which you aspire, your research and practice interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores:
GRE: Scores from the general test taken no more than 5 years prior to application are required. Scores from the GRE Subject Exam in Psychology may also be submitted.

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

- TOEFL: 79 iBT or 550 PBT
- IELTS: 6.5
- PTE Academic: 53

Interview: An interview with the faculty admissions committee may be required after a complete application is received.

Resume: Current resume required.

Clearances: A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment. Students must complete and upload documentation of clearances prior to the start of their program.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 65 (30 credits M.Ed.; 35 credits post-master's Ed.S.)

Required Courses:

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<thead>
<tr>
<th>Year 1</th>
<th>Fall</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>SPSY 5667</td>
<td>Introduction to Cognitive Assessment</td>
<td>3</td>
</tr>
<tr>
<td>SPSY 5672</td>
<td>Personality and Psychotherapy</td>
<td>3</td>
</tr>
<tr>
<td>SPSY 5676</td>
<td>Applied Behavior Analysis</td>
<td>3</td>
</tr>
<tr>
<td>SPSY 8775</td>
<td>Legal and Ethical Problems and Professional Responsibility</td>
<td>3</td>
</tr>
<tr>
<td>SPSY 9487</td>
<td>Practicum in School Psychology</td>
<td>1</td>
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<tr>
<td><strong>Term Credit Hours</strong></td>
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<tbody>
<tr>
<td>SPSY 5671</td>
<td>Advanced Cognitive Assessment</td>
<td>3</td>
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<tr>
<td>SPSY 5674</td>
<td>Social and Behavioral Assessment for Intervention</td>
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<tr>
<td>SPSY 8621</td>
<td>Academic Assessment and Intervention</td>
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<td>EPSY 5561</td>
<td>Development and Learning Over the Lifespan</td>
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<td>EDUC 5101</td>
<td>Critical Understanding of Social Science Research</td>
<td>3</td>
</tr>
<tr>
<td>SPSY 9487</td>
<td>Practicum in School Psychology</td>
<td>1</td>
</tr>
<tr>
<td>SPSY 9587</td>
<td>School Consultation</td>
<td>3</td>
</tr>
<tr>
<td>SPSY 9687</td>
<td>Clinical Supervision Seminar in School Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SPSY 9688</td>
<td>Psychoeducational Clinic</td>
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<td><strong>Term Credit Hours</strong></td>
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<tbody>
<tr>
<td>SPSY 8770</td>
<td>Seminar: Special Topics in School Psychology</td>
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<tr>
<td>SPSY 9487</td>
<td>Practicum in School Psychology</td>
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</tr>
<tr>
<td>SPSY 9687</td>
<td>Clinical Supervision Seminar in School Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SPSY 9688</td>
<td>Psychoeducational Clinic</td>
<td>3</td>
</tr>
<tr>
<td><strong>Term Credit Hours</strong></td>
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</thead>
<tbody>
<tr>
<td>SPSY 9487</td>
<td>Practicum in School Psychology</td>
<td>1</td>
</tr>
<tr>
<td>SPSY 9788</td>
<td>Seminar on Children with Low Incidence Disabilities</td>
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</tr>
<tr>
<td><strong>Term Credit Hours</strong></td>
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<th>Year 3</th>
<th>Fall</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>SPSY 9885</td>
<td>Internship in School Psychology</td>
<td>9</td>
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<tr>
<td><strong>Term Credit Hours</strong></td>
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<td><strong>9</strong></td>
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</tbody>
</table>

Total Credit Hours: 65

1. The 9 credits needed to meet the internship requirement may be taken throughout Year 3 in the Fall, Spring, and/or Summer terms.

Internship: For certification, an internship with a minimum of 1,200 hours in an approved setting must be completed. A minimum of 600 hours must be in a school setting. The internship can be full-time for a year or half-time over two years.

Culminating Events:
Comprehensive Examination:
The comprehensive examination is an essay examination that covers key areas of Psychology and School Psychology to determine the student’s competence and ability to explain key concepts. The comprehensive exam is only required for a student whose GPA is below 3.5 at the completion of M.Ed. coursework.

Portfolio Review:
During the internship year, students must submit a portfolio of professional work for review by the advisor.
School Psychology, Ph.D.

About the Program

The School Psychology Ph.D. program follows a scientist-practitioner model, which emphasizes that a school psychologist's basic skills are derived from a thorough understanding of the science of psychology. Armed with this understanding of basic psychology, the school psychologist can adapt to changing professional demands and help determine the future of the profession. Without this background, a psychologist could only serve the role of a technician and would be poorly equipped to overcome any obstacles or lead new developments in the profession.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: Students must complete one year of full-time residency. The program requires both day and evening classes.

Accreditation: The doctoral program in School Psychology is fully accredited by the American Psychological Association (APA), the National Association of School Psychologists (NASP), and the Pennsylvania Department of Education.

Job Prospects: Graduates are employed in universities, public and private schools, hospitals, research facilities, government and state agencies, and private practice.

Licensure: Certification in School Psychology is awarded after completing the internship and passing the examinations required by the Commonwealth of Pennsylvania. Some states will certify without the examinations. Licensing as a psychologist in most states requires an additional post-doctoral year of supervision and passing the Examination for the Professional Practice in Psychology (EPPP) and a state licensure exam.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. **Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.**

Financing Opportunities: Financial support opportunities may include assistantships, fellowships, scholarships, tuition remission, graduate student employment, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:

**Fall:** December 1

Applications are accepted for the Fall term only. Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

Master's Degree in Discipline/Related Discipline: A master's degree is not required.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: Using autobiographical style, explain your interest in pursuing a doctoral degree in education. The statement should address the following questions:

- Why are interested in becoming a school psychologist?
- What do you perceive as the role and functions of a school psychologist?
- What is your area of research focus?
- How does the doctoral program at Temple fit your individual interests, needs, and future goals – and which faculty member's research best matches your own interests?

Standardized Test Scores:

GRE: Official scores are required to be reported from the test taken no more than 5 years prior to submitting an application.
GRE Subject Test in Psychology: Optional.

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 79 iBT or 550 PBT
IELTS: 6.5
PTE Academic: 53

Interview: An interview with the faculty admissions committee may be required after a complete application is received.

Resume: Current resume required.

Writing Sample: The academic writing sample should be a paper written for a class within the last five years. If a recent paper is not available, the applicant should compose an op-ed piece on an educational issue of her/his choosing. The op-ed should be 400 to 1,200 words in length and of the kind that might appear in The New York Times or Philadelphia Inquirer.

Advanced Standing: The advisor determines advanced standing during the student’s first term in the program by evaluating the credits the student has taken in accordance with the relevance to and requirements of the School Psychology program. The maximum number of advanced standing credits awarded is 30.

Transfer Credit: Courses may be transferred from an accredited institution provided they were completed less than five years ago and are relevant to the program. The academic advisor makes the decision about the relevancy of the courses that the student desires to transfer. The maximum number of credits a student may transfer is 9.

Clearances: A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment. Students must complete and upload documentation of clearances prior to the start of their program.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Program Requirements

General Program Requirements:
Number of Credits Required to Earn the Degree: 100 for those who complete an internship through the Association of Psychology Postdoctoral and Internship Centers (APPIC); 103 for those who complete a non-APPIC internship

Required Courses:

<table>
<thead>
<tr>
<th>Year 1 Courses</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>Fall</td>
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<td>SPSY 5667</td>
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Spring

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Summer

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</table>

\(^1\) Statistics course
\(^2\) Internship in School Psychology
The doctoral dissertation is an original piece of scholarship that makes a significant contribution to the field of School Psychology. A majority of the dissertations in the program are empirical, typically using statistical techniques. However, there are also types of scholarship (e.g., those utilizing more qualitative approaches) that may be acceptable. A successful dissertation will be publishable in a refereed journal.

The Doctoral Advisory Committee oversees all aspects of the student's dissertation from the proposal to the oral defense. It is composed of three members of the Graduate Faculty. A member of the School Psychology faculty typically chairs the committee. At least one faculty member from outside the program must be on the committee. The student chooses her/his committee in consultation with the selected chair. A student may petition for a change of chairperson or member of the Doctoral Advisory Committee. This petition must be approved by the Department Chair and by the Associate Dean for Academic Affairs and Graduate Studies. Complete details about the dissertation process are available in the College of Education Dissertation Handbook, which is available from the Dean's office.

The Dissertation Examining Committee evaluates the student's dissertation and oral defense. It is composed of the three members of the Doctoral Advisory Committee plus one additional faculty member, i.e., an outside examiner. One member may be assigned by the Associate Dean for Academic Affairs and Graduate Studies. The Dissertation Examining Committee evaluates the dissertation and the student's ability to defend it. The committee votes to pass or fail the dissertation. The outcome of the defense is determined by majority vote.

Students who are preparing to defend their dissertation must confirm a date and time with the Dissertation Examining Committee. Notification of the date and time must then be submitted on the appropriate College form to the Associate Dean for Academic Affairs and Graduate Studies. The announcement of the oral defense is sent by the Associate Dean to the Graduate School no less than 10 days prior to the defense. A copy of the announcement is also sent to each member of the Dissertation Examining Committee and is posted on the bulletin board in the Office of Student Services of the College of Education.

### Contacts

**Program Web Address:**
https://www.temple.edu/academics/degree-programs/school-psychology-phd-ed-scps-phd

**Department Information:**

School Psychology Program  
College of Education  
1301 Cecil B. Moore Avenue  
Philadelphia, PA 19122-6091  
educate@temple.edu  
215-204-0999

**Submission Address for Application Materials:**

http://apply.temple.edu/coe

**Department Contacts:**

**Admissions:**  
Office of Enrollment Management  
educate@temple.edu  
215-204-0999
Secondary Education/English Education, M.Ed.

COLLEGE OF EDUCATION (http://education.temple.edu)


About the Program

The English Education specialization of the Secondary Education graduate program emphasizes the social, intellectual, and discursive skills necessary to ensure that students can not only survive, but also thrive in a rapidly expanding world. Courses stress connections between the advanced literacy demands of high school and the similarities and differences in the literacies necessary to thrive in home and school communities.

The English Education specialization seeks to prepare teachers to engage secondary students in the production and interpretation of literary and non-literary spoken and written texts. Graduates of this specialization can identify the basic structures and functions of language; become familiar with the texts and histories of American, European, and non-Western literary genres; and place reading and writing within the larger context of films, plays, videos, and other forms of expression.

The Secondary Education graduate program with a concentration in English Education may be completed for certification only or certification plus a master’s degree. All applicants are initially admitted to the master’s program. After successfully completing the minimum requirements for certification, students may choose to leave the program with certification-only or may elect to continue in the program and complete the additional credit hours and requirements to receive certification and a master’s degree. The program requires a minimum of 25 credits for certification-only and 31 credits for certification plus a master’s degree.

Time Limit for Degree Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis. Evening classes on Main campus start at 5:00 p.m.

Accreditation: The program is approved as a teacher certification program by the Pennsylvania Department of Education and is accredited by the Teacher Education Accreditation Council (TEAC).

Job Prospects: Graduates typically pursue teaching positions in middle and secondary school settings in grades 7 to 12.

Licensure: Upon successful completion of the degree requirements and passing all licensure examinations, candidates may apply for a Pennsylvania Instructional I Teaching Certificate.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

Coursework Required for Admission Consideration: Prerequisites for admission to the Secondary Education M.Ed. program in English include a major or the equivalent with completion of approximately 36 credits taken at the undergraduate level with a grade of “C” or better earned in English, including a linguistics course. A prerequisite evaluation is conducted upon receipt of the application and all official transcripts. All required prerequisites must be fulfilled before an applicant is eligible for admission.

Bachelor’s Degree in Discipline/Related Discipline: A bachelor’s degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: In 500 to 1,000 words, outline your interest in seeking a master’s degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores: The official score report must demonstrate a passing score on the Praxis II:

- Praxis II® Test Code 5038 — English Language, Literature, and Composition: Content Knowledge

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 79 iBT or 550 PBT
IELTS: 6.5
PTE Academic: 53

Resume: Current resume required.

Transfer Credit: Courses may be transferred from an accredited institution provided they were completed less than five years ago and are relevant to the program. The academic advisor makes the decision regarding transfer of credit.
about the relevancy of the courses that the student desires to transfer. The maximum number of credits a student may transfer is 6.

**Coursework Waivers:** Each student is assigned a faculty advisor at the time of admission. The advisor reviews the student’s credentials and determines which, if any, of the required courses can be waived. In general, this waiver covers the beginning-level courses in the program. Waiving a specific requirement, however, does not reduce the total number of credits needed to graduate.

**Clearances:** A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment.

**Other Requirement:** Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

### Program Requirements

#### General Program Requirements:
- **Number of Credits Required Beyond the Baccalaureate:** 31

#### Required Courses:

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<tr>
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<tbody>
<tr>
<td>EDUC 5255</td>
<td>Tech in Classrooms: TPCK</td>
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<td>Child and Adol Develop</td>
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<td>Models of Teaching</td>
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<td>TESL 5631</td>
<td>Foundations of Language Teaching; Meeting the Needs</td>
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<td>of English Language Learners</td>
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### Student Teaching and Seminar
- EDUC 5409 Research Methods and Induction Capstone: 3
- EDUC 5888 Supervised Teaching: 4

**Total Credit Hours:** 31

**Culminating Events:** Student teaching and its related seminar are the culminating events for this program.

### Contacts

#### Program Web Address:

#### Department Information:
- Dept. of Teaching and Learning
- College of Education
- 1301 Cecil B. Moore Avenue
- Philadelphia, PA 19122-6091
- educate@temple.edu
- 215-204-0999

### Submission Address for Application Materials:
http://apply.temple.edu/coe

### Department Contacts:
- **Admissions:** Office of Enrollment Management
- educate@temple.edu
- 215-204-0999

### Secondary Education/ Mathematics Education, M.Ed.

#### COLLEGE OF EDUCATION (http://education.temple.edu)


### About the Program

The Mathematics Education specialization of the Secondary Education graduate program follows the standards and recommendations of leading mathematics professional organizations, such as the National Council of Teachers of Mathematics (NCTM). The curriculum is designed to provide candidates with knowledge of the interests and abilities of students at different levels of mathematics achievement. The program emphasizes problem-solving skills, mathematical thinking processes, and methods of actively engaging children and young adults in their own learning.

The Secondary Education graduate program with a concentration in Mathematics Education may be completed for certification only or certification plus a master's degree. All applicants are initially admitted to the master's program. After successfully completing the minimum requirements for certification, students may choose to leave the program with certification-only or may elect to continue in the program and complete the additional credit hours and requirements to receive certification and a master's degree. The program requires a minimum of 25 credits for certification-only and 31 credits for certification plus a master's degree.

**Time Limit for Degree Completion:** 4 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The degree program can be completed on a full- or part-time basis. Evening classes on Main campus start at 5:00 p.m.

**Accreditation:** The program is approved as a teacher certification program by the Pennsylvania Department of Education and is accredited by the Teacher Education Accreditation Council (TEAC).

**Job Prospects:** Graduates typically pursue teaching positions in middle and secondary school settings in grades 7 to 12.

**Licensure:** Upon successful completion of the degree requirements and passing all licensure examinations, candidates may apply for a Pennsylvania Instructional I Teaching Certificate.

**Non-Matriculated Student Policy:** Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if
the student is admitted. **Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.**

**Financing Opportunities:** Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

**Admission Requirements and Deadlines**

**Application Deadline:**

*Fall:* March 1  
*Spring:* November 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

**APPLY ONLINE to this graduate program.**

**Letters of Reference:**  
**Number Required:** 2

**From Whom:** Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

**Coursework Required for Admission Consideration:** Prerequisites for admission to the Secondary Education M.Ed. program in Mathematics include a major or the equivalent with completion of approximately 30 credits taken at the undergraduate level with a grade of "C" or better earned in mathematics, beginning with calculus. A prerequisite evaluation is conducted upon receipt of the application and all official transcripts. All required prerequisites must be fulfilled before an applicant is eligible for admission.

**Bachelor's Degree in Discipline/Related Discipline:** A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

**Statement of Goals:** In 500 to 1,000 words, outline your interest in seeking a master's degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

**Standardized Test Scores:** The official score report must demonstrate a passing score on the **Praxis II:**

- **Praxis II® Test Code 5161 — Mathematics: Content Knowledge**

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

- **TOEFL:** 79 iBT or 550 PBT  
- **IELTS:** 6.5  
- **PTE Academic:** 53

**Resume:** Current resume required.

**Transfer Credit:** Courses may be transferred from an accredited institution provided they were completed less than five years ago and are relevant to the program. The academic advisor makes the decision about the relevancy of the courses that the student desires to transfer. The maximum number of credits a student may transfer is 6.

**Coursework Waivers:** Each student is assigned a faculty advisor at the time of admission. The advisor reviews the student's credentials and determines which, if any, of the required courses can be waived. In general, this waiver covers the beginning-level courses in the program. Waiving a specific requirement, however, does not reduce the total number of credits needed to graduate.

**Clearances:** A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment.

**Other Requirement:** Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

**Program Requirements**

**General Program Requirements:**

*Number of Didactic Credits Required Beyond the Baccalaureate: 31*

**Required Courses:**

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<th>Code</th>
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**Total Credit Hours** 31

**Culminating Events:** Student teaching and its related seminar are the culminating events for this program.

**Contacts**

**Program Web Address:**


**Department Information:**

Dept. of Teaching and Learning  
College of Education  
1301 Cecil B. Moore Avenue  
Philadelphia, PA 19122-6091  
educate@temple.edu
Secondary Education/Science Education, M.Ed.

COLLEGE OF EDUCATION (http://education.temple.edu)

Learn more about the Master of Education in Secondary Education (https://www.temple.edu/academics/degree-programs/secondary-education-med-ed-sece-med),

About the Program

The Secondary Education graduate program's Science Education specialization, endorsed by the National Science Teachers Association (NSTA), requires a strong foundation in at least one science discipline with supporting expertise in mathematics, as appropriate. Students graduate with an understanding of the nature of science and its complex relationship to the society in which it functions and which it serves. The program offers concentrations in Biology, Chemistry, Earth Science, General Science, and Physics.

The Secondary Education graduate program with a concentration in Science Education may be completed for certification only or certification plus a master's degree. All applicants are initially admitted to the master's program. After successfully completing the minimum requirements for certification, students may choose to leave the program with certification-only or may elect to continue in the program and complete the additional credit hours and requirements to receive certification and a master's degree. The program requires a minimum of 25 credits for certification-only and 31 credits for certification plus a master's degree.

Time Limit for Degree Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis. Evening classes on Main campus start at 5:00 p.m.

Accreditation: The program is approved as a teacher certification program by the Pennsylvania Department of Education and is accredited by the Teacher Education Accreditation Council (TEAC).

Areas of Specialization: The Science Education specialization of the Secondary Education graduate program offers concentrations in Biology, Chemistry, Earth Science, General Science, and Physics.

Job Prospects: Graduates typically pursue teaching positions in middle and secondary school settings in grades 7 to 12.

Licensure: Upon successful completion of the degree requirements and passing all required licensure examinations, candidates may apply for a Pennsylvania Instructional I Teaching Certificate.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

Coursework Required for Admission Consideration: Prerequisites for admission to the Secondary Education M.Ed. program in Science include a major or the equivalent with completion of approximately 30 credits taken at the undergraduate level with a grade of "C" or better earned in a scientific discipline such as biology, chemistry, earth science, and physics. General science majors must show evidence of coursework covering at least three science areas with a year course plus a concentration in any area.

A prerequisite evaluation is conducted upon receipt of the application and all official transcripts. All required prerequisites must be fulfilled before an applicant is eligible for admission.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: In 500 to 1,000 words, outline your interest in seeking a master's degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores: The official score report must demonstrate a passing score on the Praxis II® in at least one of these disciplines:

• Praxis II® Test Code 5235 — Biology: Content Knowledge
• Praxis II® Test Code 5245 — Chemistry: Content Knowledge
• Praxis II® Test Code 5265 — Physics: Content Knowledge
• Praxis II® Test Code 5435 — General Science: Content Knowledge
• Praxis II® Test Code 5571 — Earth Science: Content Knowledge

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 79 iBT or 550 PBT
IELTS: 6.5
PTE Academic: 53

Resume: Current resume required.

Transfer Credit: Courses may be transferred from an accredited institution provided they were completed less than five years ago and are relevant to the program. The academic advisor makes the decision about the relevancy of the courses that the student desires to transfer. The maximum number of credits a student may transfer is 6.

Coursework Waivers: Each student is assigned a faculty advisor at the time of admission. The advisor reviews the student’s credentials and determines which, if any, of the required courses can be waived. In general, this waiver covers the beginning-level courses in the program. Waiving a specific requirement, however, does not reduce the total number of credits needed to graduate.

Clearances: A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Program Requirements

General Program Requirements:
Number of Didactic Credits Required Beyond the Baccalaureate: 31

Required Courses:

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<td>Models of Teaching</td>
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<tr>
<td>SCES 5415</td>
<td>Tchg Sci Sec Sch Tchrs</td>
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<td>SCES 5713</td>
<td>L&amp;T Hi Sch Bio/Phys/Chem</td>
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<td>SECE 5471</td>
<td>Literacy and Differentiation in the Academic Areas, 7-12</td>
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Student Teaching and Seminar

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<td>Supervised Teaching</td>
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Total Credit Hours 31

Culminating Events: Student teaching and its related seminar are the culminating events for this program.

Contacts

Program Web Address:

Department Information:
Dept. of Teaching and Learning
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
Admissions:
Office of Enrollment Management
educate@temple.edu
215-204-099

Secondary Education/Social Studies Education, M.Ed.

COLLEGE OF EDUCATION (http://education.temple.edu)


About the Program

Professional preparation in the Social Studies Education specialization of the Secondary Education graduate program aims to develop teachers with the skills necessary to create an informed citizenry with respect for diversity in a democratic society. The Social Studies Education specialization emphasizes critical thinking about social studies curriculum frameworks and materials; curriculum development grounded in teaching for understanding; and sensitivity around controversial areas such as race relations, gender, war and peace, equality of economic and social opportunities, and global interdependence.

The Secondary Education graduate program with a concentration in Social Studies Education may be completed for certification only or certification plus a master's degree. All applicants are initially admitted to the master's program. After successfully completing the minimum requirements for certification, students may choose to leave the program with certification-only or may elect to continue in the program and complete the additional credit hours and requirements to receive certification and a master’s degree. The program requires a minimum of 25 credits for certification-only and 31 credits for certification plus a master’s degree.

Time Limit for Degree Completion: 4 years
Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis. Evening classes on Main campus start at 5:00 p.m.

Accreditation: The program is approved as a teacher certification program by the Pennsylvania Department of Education and is accredited by the Teacher Education Accreditation Council (TEAC).

Job Prospects: Graduates typically pursue teaching positions in middle and secondary school settings in grades 7 to 12.

Licensure: Upon successful completion of the degree requirements and passing all required licensure examinations, candidates may apply for a Pennsylvania Instructional I Teaching Certificate.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

Coursework Required for Admission Consideration: Prerequisites for admission to the Secondary Education M.Ed. program in Social Studies include a major or the equivalent with completion of approximately 36 credits taken at the undergraduate level with a grade of “C” or better earned in geography, history, or political science. A prerequisite evaluation is conducted upon receipt of the application and all official transcripts. All required prerequisites must be fulfilled before an applicant is eligible for admission.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: In 500 to 1,000 words, outline your interest in seeking a master's degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores: The official score report must demonstrate a passing score on the Praxis II:

- Praxis II Test Code 5081 — Social Studies: Content Knowledge

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 79 iBT or 550 PBT
IELTS: 6.5
PTE Academic: 53

Resume: Current resume required.

Transfer Credit: Courses may be transferred from an accredited institution provided they were completed less than five years ago and are relevant to the program. The academic advisor makes the decision about the relevancy of the courses that the student desires to transfer. The maximum number of credits a student may transfer is 6.

Coursework Waivers: Each student is assigned a faculty advisor at the time of admission. The advisor reviews the student's credentials and determines which, if any, of the required courses can be waived. In general, this waiver covers the beginning-level courses in the program. Waiving a specific requirement, however, does not reduce the total number of credits needed to graduate.

Clearances: A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Program Requirements

General Program Requirements:
Number of Didactic Credits Required Beyond the Baccalaureate: 31

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED5255</td>
<td>Tech in Classrooms: TPCK</td>
<td>3</td>
</tr>
<tr>
<td>ED5402</td>
<td>Child and Adolescence Develop</td>
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<td>ED5605</td>
<td>Models of Teaching</td>
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</tr>
<tr>
<td>SECE5471</td>
<td>Literacy and Differentiation in the Academic Areas, 7-12</td>
<td>3</td>
</tr>
<tr>
<td>SPED5666</td>
<td>Inclusive School Practices</td>
<td>3</td>
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<tr>
<td>SS5465</td>
<td>Meth &amp; Matrix Sec Soc St</td>
<td>3</td>
</tr>
<tr>
<td>SS5466</td>
<td>Teaching for Understanding in Secondary Social Studies</td>
<td>3</td>
</tr>
<tr>
<td>TESL5631</td>
<td>Foundations of Language Teaching: Meeting the Needs of English Language Learners</td>
<td>3</td>
</tr>
</tbody>
</table>

Student Teaching and Seminar
### Secondary Education / World/Foreign Languages Education, M.Ed.

**COLLEGE OF EDUCATION** (http://education.temple.edu)


#### About the Program

The World/Foreign Languages Education specialization of the Secondary Education program is devoted to providing students with a combination of fluency in the target language and the ability to implement best practices in foreign language pedagogy. The World/Foreign Languages Education specialization emphasizes that learning a foreign language also means learning about another way of life and developing intercultural understanding in order to escape a narrow cultural perspective. Through the experiences in this program, students gain a deeper understanding of the nature of language and culture.

Although most graduates work in secondary school settings, the need for foreign language teachers in elementary schools, especially for teachers of Spanish, is increasing. In response to this, the World/Foreign Languages Education specialization offers K-12 certification, and the curriculum is designed to equip students with knowledge and skills they can apply in K-12 settings. Certification is offered in French, German, Italian, Latin, and Spanish.

The Secondary Education graduate program with a concentration in World/Foreign Languages Education may be completed for certification only or certification plus a master's degree. All applicants are initially admitted to the master's program. After successfully completing the minimum requirements for certification, students may choose to leave the program with certification-only or may elect to continue in the program and complete the additional credit hours and requirements to receive certification and a master's degree. The program requires a minimum of 28 credits for certification-only and 31 credits for certification plus a master's degree.

**Time Limit for Degree Completion:** 4 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The degree program can be completed on a full- or part-time basis. Evening classes on Main campus start at 5:30 p.m.

**Accreditation:** The program is approved as a teacher certification program by the Pennsylvania Department of Education and is accredited by the Teacher Education Accreditation Council (TEAC).

**Areas of Specialization:** The World/Foreign Languages Education specialization of the Secondary Education graduate program offers certification in French, German, Italian, Latin, and Spanish.

**Job Prospects:** Graduates typically pursue teaching positions in elementary, middle, or secondary school settings in grades K to 12.

**Licensure:** Upon successful completion of the degree requirements and passing all required licensure examinations, candidates may apply for a Pennsylvania Instructional I Teaching Certificate.

**Non-Matriculated Student Policy:** Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. **Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.**

**Financing Opportunities:** Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

### Admission Requirements and Deadlines

**Application Deadline:**
- **Fall:** March 1
- **Spring:** November 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

**APPLY ONLINE to this graduate program.**

**Letters of Reference:**
- **Number Required:** 2
From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

Coursework Required for Admission Consideration: Prerequisites for admission to the Secondary Education M.Ed. program in World Languages include a major or the equivalent with completion of approximately 36 credits taken at the undergraduate level with a grade of "C" or better earned in a world language such as French, German, Italian, Latin, or Spanish. Coursework should include the following:

- For non-native speakers of English, ten three-credit courses, covering work in conversation, composition, culture and civilization, linguistics, and contemporary literature, beyond the first two elementary courses, with a minimum of 30 credits in the foreign language at the college level for certification in one foreign language.
- For native speakers, eight courses at a university taken in the department of the language of certification (e.g., the Spanish Department) at their level of knowledge of the language, literature, and culture and linguistics.

A prerequisite evaluation is conducted upon receipt of the application and all official transcripts. All required prerequisites must be fulfilled before an applicant is eligible for admission. No foreign language examination is offered to award credit by examination at Temple University.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: In 500 to 1,000 words, outline your interest in seeking a master's degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores: The official score report must demonstrate a passing score on both Praxis I® and Praxis II®:

- Praxis I® Test Code 30511 — Fundamental Subjects: Content Knowledge
- Praxis I® Test Code 0601 — Latin
- Praxis I® Test Code 5174 — World Languages: French
- Praxis I® Test Code 5183 — World Languages: German
- Praxis I® Test Code 5195 — World Languages: Spanish

Candidates for all other foreign languages should take the ACTFL test, which includes a written (when available) and oral exam that is graded on a proficiency scale rather than a point scale. Both the written and oral exams must be taken if available. The minimum proficiency to qualify is Intermediate High: Code 120. Candidates may contact the testing office of the American Council on the Teaching of Foreign Languages (ACTFL) at 914-983-7110.

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

- TOEFL: 79 iBT or 550 PBT
- IELTS: 6.5

PTE Academic: 53

Resume: Current resume required.

Transfer Credit: Courses may be transferred from an accredited institution provided they were completed less than five years ago and are relevant to the program. The academic advisor makes the decision about the relevancy of the courses that the student desires to transfer. The maximum number of credits a student may transfer is 6.

Coursework Waivers: Each student is assigned a faculty advisor at the time of admission. The advisor reviews the student's credentials and determines which, if any, of the required courses can be waived. In general, this waiver covers the beginning-level courses in the program. Waiving a specific requirement, however, does not reduce the total number of credits needed to graduate.

Clearances: A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 31

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
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<td>EDUC 5402</td>
<td>Child and Adol Develop</td>
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<tr>
<td>EDUC 5605</td>
<td>Models of Teaching</td>
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<td>FLED 5429</td>
<td>Curriculum and Methods in Foreign Languages</td>
<td>3</td>
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<td>FLED 5431</td>
<td>Innovations in Foreign Language Education</td>
<td>3</td>
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<td>SECE 5471</td>
<td>Literacy and Differentiation in the Academic Areas, 7-12</td>
<td>3</td>
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<tr>
<td>SPED 5666</td>
<td>Inclusive School Practices</td>
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Student Teaching and Seminar

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<th>Code</th>
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<tbody>
<tr>
<td>EDUC 5409</td>
<td>Research Methods and Induction Capstone</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 5888</td>
<td>Supervised Teaching</td>
<td>4</td>
</tr>
</tbody>
</table>

Total Credit Hours 31

Language Examination: Test scores documenting language proficiency need not be provided as they cannot be substituted for academic coursework in the target language.

Culminating Events: Student teaching and its related seminar are the culminating events for this program.
Secondary Education and Special Education/English Education, M.Ed.

COLLEGE OF EDUCATION (http://education.temple.edu)


About the Program

The M.Ed. in Secondary Education and Special Education is designed to prepare students to teach in a diverse, urban context and to have the skills to address the challenges facing both students and educators in urban schools. Teachers who are well-equipped to create inclusive classrooms foster learning for all students, including those with disabilities, learning deficits, and language differences, as well as those from diverse cultures within and outside mainstream American culture. In addressing student diversity, effective teachers create pedagogical strategies that are founded on principles of social, cognitive, emotional, and intellectual development. Students in the program learn to present lesson plans that differentiate instruction and include concrete strategies designed to ensure that all students’ needs are met and all students have the opportunity to succeed in the classroom. Our students spend some time in the field in the broad spectrum of Philadelphia schools, with the idea that a diverse sequence of field experiences promote an understanding of the impact of resources on education and efforts to ensure equitable access to good education for all children.

The M.Ed. in Secondary Education and Special Education degree program is designed for individuals choosing to change careers after earning a baccalaureate degree in another field to prepare them for initial teacher certification in Secondary Education (grades 7-12) and Special Education (grades 7-12). With this degree, students are highly qualified to teach in a variety of school settings. They earn a combined M.Ed. in Secondary Education and Special Education, with dual certification in Special Education and one of the concentration areas in Secondary Education:

- English Education
- Mathematics Education
- Science Education
- Social Studies Education
- World/Foreign Languages Education

Time Limit for Degree Completion: 4 years

Admission Requirements and Deadlines

Application Deadline:
- Fall: March 1
- Spring: November 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

Coursework Required for Admission Consideration: Prerequisites for admission to the Secondary Education and Special Education M.Ed. program in English include a major or the equivalent with completion of approximately 36 credits taken at the undergraduate level with a
grade of "C" or better earned in English, including a linguistics course. A prerequisite evaluation is conducted upon receipt of the application and all official transcripts. All required prerequisites must be fulfilled before an applicant is eligible for admission.

**Bachelor’s Degree in Discipline/Related Discipline:** A bachelor’s degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

**Statement of Goals:** In 500 to 1,000 words, outline your interest in seeking a master's degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

**Standardized Test Scores:** The official score report must demonstrate a passing score on the *Praxis II*:

- *Praxis II* Test Code 5038 — English Language, Literature, and Composition: Content Knowledge

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

- TOEFL: 79 iBT or 550 PBT
- IELTS: 6.5
- PTE Academic: 53

**Resume:** Current resume required.

**Transfer Credit:** Courses may be transferred from an accredited institution provided they were completed less than five years ago and are relevant to the program. The academic advisor makes the decision about the relevancy of the courses that the student desires to transfer. The maximum number of credits a student may transfer is 6.

**Coursework Waivers:** Each student is assigned a faculty advisor at the time of admission. The advisor reviews the student's credentials and determines which, if any, of the required courses can be waived. In general, this waiver covers the beginning-level courses in the program. Waiving a specific requirement, however, does not reduce the total number of credits needed to graduate.

**Clearances:** A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment.

**Other Requirement:** Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

### Program Requirements

**General Program Requirements:**
*Number of Credits Required Beyond the Baccalaureate:* 46

**Required Courses:**

<table>
<thead>
<tr>
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</tr>
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<tbody>
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<tr>
<td>TESL 5631</td>
<td>Foundations of Language Teaching: Meeting the Needs of English Language Learners</td>
<td>3</td>
</tr>
</tbody>
</table>

**Special Education Courses**

- SPED 5106 | Literacy Instruction for Young Children with Disabilities | 3 |
- SPED 5109 | Classroom Management and Positive Behavior Support | 3 |
- SPED 5187 | Graduate Assessment Practicum in Early Childhood Special Education | 3 |
- SPED 5211 | Effective Instructional Strategies for Young Children with Disabilities | 3 |
- SPED 5402 | Effective Transition Practices for Students with Mild Disabilities | 3 |
- SPED 5666 | Inclusive School Practices | 3 |

**English Education Concentration Courses**

- ENES 5641 | Tchg Composition Sec Sch | 3 |
- ENES 5642 | Tchg Literature Sec Sch | 3 |

**Supervised Teaching**

- EDUC 5605 | Models of Teaching | 3 |
- EDUC 5888 | Supervised Teaching | 4 |

**Total Credit Hours:** 46

1 It is recommended that SPED 5666 be the first Special Education course taken by students in the program.

**Milestones:** Students must meet two milestones during their training:

- Intermediate Performance Assessment (IPA)
- Senior Performance Assessment (SPA)

**Culminating Events:** Student teaching and its related seminar are the culminating events for this program. For EDUC 5888 Supervised Teaching, students receive training and experiences in both secondary education and special education. The Supervised Teaching course for Secondary Education students entails 14 weeks of supervised teaching in a Secondary Education content area classroom.

### Contacts

**Program Web Address:**


**Department Information:**

Dept. of Teaching and Learning
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
doel@temple.edu
215-204-0999
Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
Admissions:
Office of Enrollment Management
educate@temple.edu
215-204-0999

Secondary Education and Special Education/Mathematics Education, M.Ed.

COLLEGE OF EDUCATION (http://education.temple.edu)


About the Program

The M.Ed. in Secondary Education and Special Education is designed to prepare students to teach in a diverse, urban context and to have the skills to address the challenges facing both students and educators in urban schools. Teachers who are well-equipped to create inclusive classrooms foster learning for all students, including those with disabilities, learning deficits, and language differences, as well as those from diverse cultures within and outside mainstream American culture. In addressing student diversity, effective teachers create pedagogical strategies that are founded on principles of social, cognitive, emotional, and intellectual development. Students in the program learn to present lesson plans that differentiate instruction and include concrete strategies designed to ensure that all students’ needs are met and all students have the opportunity to succeed in the classroom. Our students spend some time in the field in the broad spectrum of Philadelphia schools, with the idea that a diverse sequence of field experiences promote an understanding of the impact of resources on education and efforts to ensure equitable access to good education for all children.

The M.Ed. in Secondary Education and Special Education degree program is designed for individuals choosing to change careers after earning a baccalaureate degree in another field to prepare them for initial teacher certification in Secondary Education (grades 7-12) and Special Education (grades 7-12). With this degree, students are highly qualified to teach in a variety of school settings. They earn a combined M.Ed. in Secondary Education and Special Education, with dual certification in Special Education and one of the concentration areas in Secondary Education:

- English Education
- Mathematics Education
- Science Education
- Social Studies Education
- World/Foreign Languages Education

Time Limit for Degree Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis. Evening classes on Main campus start at 5:30 p.m.

Accreditation: The program is approved as a teacher certification program by the Pennsylvania Department of Education and is accredited by the Teacher Education Accreditation Council (TEAC).

Job Prospects: Graduates typically pursue teaching positions in middle and secondary school settings in grades 7 to 12.

Licensure: Upon successful completion of the degree requirements and passing all licensure examinations, candidates may apply for a Pennsylvania Instructional I Teaching Certificate.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:
Fall: March 1
Spring: November 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

Coursework Required for Admission Consideration: Prerequisites for admission to the Secondary Education and Special Education M.Ed. program in Mathematics include a major or the equivalent with completion of approximately 30 credits taken at the undergraduate level with a grade of “C” or better earned in mathematics, beginning with calculus. A prerequisite evaluation is conducted upon receipt of the application and all official transcripts. All required prerequisites must be fulfilled before an applicant is eligible for admission.

Bachelor’s Degree in Discipline/Related Discipline: A bachelor’s degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: In 500 to 1,000 words, outline your interest in seeking a master’s degree with a specific focus on the career to
which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

**Standardized Test Scores:** The official score report must demonstrate a passing score on the **Praxis II®**:

- **Praxis II®** Test Code 5161 — Mathematics: Content Knowledge

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

- **TOEFL:** 79 iBT or 550 PBT
- **IELTS:** 6.5
- **PTE Academic:** 53

**Resume:** Current resume required.

**Transfer Credit:** Courses may be transferred from an accredited institution provided they were completed less than five years ago and are relevant to the program. The academic advisor makes the decision about the relevancy of the courses that the student desires to transfer. The maximum number of credits a student may transfer is 6.

**Coursework Waivers:** Each student is assigned a faculty advisor at the time of admission. The advisor reviews the student’s credentials and determines which, if any, of the required courses can be waived. In general, this waiver covers the beginning-level courses in the program. Waiving a specific requirement, however, does not reduce the total number of credits needed to graduate.

**Clearances:** A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment.

**Other Requirement:** Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

**Program Requirements**

**General Program Requirements:**

*Number of Credits Required Beyond the Baccalaureate: 46*

**Required Courses:**

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<td><strong>Core Courses</strong></td>
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<tr>
<td>EDUC 5255</td>
<td>Tech in Classrooms: TPCK</td>
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<td>Child and Adol Develop</td>
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<td>EDUC 5409</td>
<td>Research Methods and Induction Capstone</td>
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<td>SECE 5471</td>
<td>Literacy and Differentiation in the Academic Areas,</td>
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<td>7-12</td>
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<td>TESL 5631</td>
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<td></td>
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<tr>
<td><strong>Special Education Courses</strong></td>
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<td>SPED 5106</td>
<td>Literacy Instruction for Young Children with</td>
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<td>Disabilities</td>
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<td>SPED 5109</td>
<td>Classroom Management and Positive Behavior Support</td>
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<td>SPED 5187</td>
<td>Graduate Assessment Practicum in Early Childhood</td>
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<tr>
<td></td>
<td>Special Education</td>
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</tbody>
</table>

It is recommended that SPED 5666 be the first Special Education course taken by students in the program.

**Milestones:** Students must meet two milestones during their training:

- Intermediate Performance Assessment (IPA)
- Senior Performance Assessment (SPA)

**Culminating Events:** Student teaching and its related seminar are the culminating events for this program. For EDUC 5888 Supervised Teaching, students receive training and experiences in both secondary education and special education. The Supervised Teaching course for Secondary Education students entails 14 weeks of supervised teaching in a Secondary Education content area classroom.

**Contacts**

**Program Web Address:**


**Department Information:**

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**Submission Address for Application Materials:**

http://apply.temple.edu/coe

**Department Contacts:**

Admissions:
Office of Enrollment Management
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**Secondary Education and Special Education/Science Education, M.Ed.**

COLLEGE OF EDUCATION (http://education.temple.edu)

About the Program

The M.Ed. in Secondary Education and Special Education is designed to prepare students to teach in a diverse, urban context and to have the skills to address the challenges facing both students and educators in urban schools. Teachers who are well-equipped to create inclusive classrooms foster learning for all students, including those with disabilities, learning deficits, and language differences, as well as those from diverse cultures within and outside mainstream American culture. In addressing student diversity, effective teachers create pedagogical strategies that are founded on principles of social, cognitive, emotional, and intellectual development. Students in the program learn to present lesson plans that differentiate instruction and include concrete strategies designed to ensure that all students’ needs are met and all students have the opportunity to succeed in the classroom. Our students spend some time in the field in the broad spectrum of Philadelphia schools, with the idea that a diverse sequence of field experiences promote an understanding of the impact of resources on education and efforts to ensure equitable access to good education for all children.

The M.Ed. in Secondary Education and Special Education degree program is designed for individuals choosing to change careers after earning a baccalaureate degree in another field to prepare them for initial teacher certification in Secondary Education (grades 7-12) and Special Education (grades 7-12). With this degree, students are highly qualified to teach in a variety of school settings. They earn a combined M.Ed. in Secondary Education and Special Education, with dual certification in Special Education and one of the concentration areas in Secondary Education:

- English Education
- Mathematics Education
- Science Education
- Social Studies Education
- World/Foreign Languages Education

Time Limit for Degree Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis. Evening classes on Main campus start at 5:30 p.m.

Accreditation: The program is approved as a teacher certification program by the Pennsylvania Department of Education and is accredited by the Teacher Education Accreditation Council (TEAC).

Job Prospects: Graduates typically pursue teaching positions in middle and secondary school settings in grades 7 to 12.

Licensure: Upon successful completion of the degree requirements and passing all licensure examinations, candidates may apply for a Pennsylvania Instructional I Teaching Certificate.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

Coursework Required for Admission Consideration: Prerequisites for admission to the Secondary Education and Special Education M.Ed. program in Science include a major or the equivalent with completion of approximately 30 credits taken at the undergraduate level with a grade of “C” or better earned in a scientific discipline such as biology, chemistry, earth science, and physics. General science majors must show evidence of coursework covering at least three science areas with a year course plus a concentration in any area.

A prerequisite evaluation is conducted upon receipt of the application and all official transcripts. All required prerequisites must be fulfilled before an applicant is eligible for admission.

Bachelor’s Degree in Discipline/Related Discipline: A bachelor’s degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: In 500 to 1,000 words, outline your interest in seeking a master’s degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores: The official score report must demonstrate a passing score on the Praxis II® in at least one of these disciplines:

- Praxis II® Test Code 5235 — Biology: Content Knowledge
- Praxis II® Test Code 5245 — Chemistry: Content Knowledge
- Praxis II® Test Code 5265 — Physics: Content Knowledge
- Praxis II® Test Code 5435 — General Science: Content Knowledge
- Praxis II® Test Code 5571 — Earth Science: Content Knowledge
Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 79 iBT or 550 PBT
IELTS: 6.5
PTE Academic: 53

Resume: Current resume required.

Transfer Credit: Courses may be transferred from an accredited institution provided they were completed less than five years ago and are relevant to the program. The academic advisor makes the decision about the relevancy of the courses that the student desires to transfer. The maximum number of credits a student may transfer is 6.

Coursework Waivers: Each student is assigned a faculty advisor at the time of admission. The advisor reviews the student’s credentials and determines which, if any, of the required courses can be waived. In general, this waiver covers the beginning-level courses in the program. Waiving a specific requirement, however, does not reduce the total number of credits needed to graduate.

Clearances: A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 46

Required Courses:

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<tr>
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<tbody>
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<td>EDUC 5402</td>
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<tr>
<td>TESL 5631</td>
<td>Foundations of Language Teaching; Meeting the Needs of English Language Learners</td>
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Special Education Courses

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<td>3</td>
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<tr>
<td>SPED 5666</td>
<td>Inclusive School Practices</td>
<td>3</td>
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Science Education Concentration Courses

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<td>Tchg Sci Sec Sch Tchr</td>
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<tr>
<td>SCES 5713</td>
<td>L&amp;T Hi Sch Bio/Phys/Chem</td>
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Supervised Teaching

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<th>Code</th>
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</thead>
<tbody>
<tr>
<td>EDUC 5605</td>
<td>Models of Teaching</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 5888</td>
<td>Supervised Teaching</td>
<td>4</td>
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</tbody>
</table>

Total Credit Hours: 46

1. It is recommended that SPED 5666 be the first Special Education course taken by students in the program.

Milestones: Students must meet two milestones during their training:
- Intermediate Performance Assessment (IPA)
- Senior Performance Assessment (SPA)

Culminating Events: Student teaching and its related seminar are the culminating events for this program. For EDUC 5888 Supervised Teaching, students receive training and experiences in both secondary education and special education. The Supervised Teaching course for Secondary Education students entails 14 weeks of supervised teaching in a Secondary Education content area classroom.

Contacts

Program Web Address:

Department Information:
Dept. of Teaching and Learning
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
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Secondary Education and Special Education/Social Studies Education, M.Ed.

COLLEGE OF EDUCATION (http://education.temple.edu)

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- English Education
- Mathematics Education
- Science Education
- Social Studies Education
- World/Foreign Languages Education

Time Limit for Degree Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis. Evening classes on Main campus start at 5:30 p.m.

Accreditation: The program is approved as a teacher certification program by the Pennsylvania Department of Education and is accredited by the Teacher Education Accreditation Council (TEAC).

Job Prospects: Graduates typically pursue teaching positions in middle and secondary school settings in grades 7 to 12.

Licensure: Upon successful completion of the degree requirements and passing all licensure examinations, candidates may apply for a Pennsylvania Instructional I Teaching Certificate.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. **Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.**

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

**APPLY ONLINE to this graduate program.**

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

Coursework Required for Admission Consideration: Prerequisites for admission to the Secondary Education and Special Education M.Ed. program in Social Studies include a major or the equivalent with completion of approximately 36 credits taken at the undergraduate level with a grade of “C” or better earned in geography, history, or political science. A prerequisite evaluation is conducted upon receipt of the application and all official transcripts. All required prerequisites must be fulfilled before an applicant is eligible for admission.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: In 500 to 1,000 words, outline your interest in seeking a master’s degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores: The official score report must demonstrate a passing score on the *Praxis II*:

- *Praxis II® Test Code 5081 — Social Studies: Content Knowledge*

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

- **TOEFL**: 79 iBT or 550 PBT
- **IELTS**: 6.5
- **PTE Academic**: 53

Resume: Current resume required.

Transfer Credit: Courses may be transferred from an accredited institution provided they were completed less than five years ago and are relevant to the program. The academic advisor makes the decision...
about the relevancy of the courses that the student desires to transfer. The maximum number of credits a student may transfer is 6.

Coursework Waivers: Each student is assigned a faculty advisor at the time of admission. The advisor reviews the student’s credentials and determines which, if any, of the required courses can be waived. In general, this waiver covers the beginning-level courses in the program. Waiving a specific requirement, however, does not reduce the total number of credits needed to graduate.

Clearances: A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 46

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Special Education Courses

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Social Studies Education Courses

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<tbody>
<tr>
<td>SSES 5465</td>
<td>Meth &amp; Mats Sec Soc St</td>
<td>3</td>
</tr>
<tr>
<td>SSES 5466</td>
<td>Teaching for Understanding in Secondary Social Studies</td>
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Supervised Teaching

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Total Credit Hours: 46

Milestones: Students must meet two milestones during their training:

- Intermediate Performance Assessment (IPA)
- Senior Performance Assessment (SPA)

Culminating Events: Student teaching and its related seminar are the culminating events for this program. For EDUC 5888 Supervised Teaching, students receive training and experiences in both secondary education and special education. The Supervised Teaching course for Secondary Education students entails 14 weeks of supervised teaching in a Secondary Education content area classroom.

Contacts

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Department Information:
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Secondary Education and Special Education / World/Foreign Languages Education, M.Ed.

COLLEGE OF EDUCATION (http://education.temple.edu)


About the Program

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Time Limit for Degree Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis. Evening classes on Main campus start at 5:30 p.m.

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Job Prospects: Graduates typically pursue teaching positions in middle and secondary school settings in grades 7 to 12.

Licensure: Upon successful completion of the degree requirements and passing all licensure examinations, candidates may apply for a Pennsylvania Instructional I Teaching Certificate.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

Coursework Required for Admission Consideration: Prerequisites for admission to the Secondary Education and Special Education M.Ed. program in World Languages include a major or the equivalent with completion of approximately 36 credits taken at the undergraduate level with a grade of "C" or better earned in a world language such as French, German, Italian, Latin, or Spanish. Coursework should include the following:

- For non-native speakers of English, ten three-credit courses, covering work in conversation, composition, culture and civilization, linguistics, and contemporary literature, beyond the first two elementary courses, with a minimum of 30 credits in the foreign language at the college level for certification in one foreign language.
- For native speakers, eight courses at a university taken in the department of the language of certification (e.g., the Spanish Department) at their level of knowledge of the language, literature, and culture and linguistics.

A prerequisite evaluation is conducted upon receipt of the application and all official transcripts. All required prerequisites must be fulfilled before an applicant is eligible for admission. No foreign language examination is offered to award credit by examination at Temple University.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: In 500 to 1,000 words, outline your interest in seeking a master’s degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores: The official score report must demonstrate a passing score on both Praxis I® and Praxis II®:

- Praxis I® Test Code 3051 — Fundamental Subjects: Content Knowledge
- Praxis I® Test Code 0601 — Latin
- Praxis I® Test Code 5174 — World Languages: French
- Praxis I® Test Code 5183 — World Languages: German
- Praxis I® Test Code 5195 — World Languages: Spanish

Candidates for all other foreign languages should take the ACTFL test, which includes a written (when available) and oral exam that is graded on a proficiency scale rather than a point scale. Both the written and oral exams must be taken if available. The minimum proficiency to qualify is Intermediate High: Code 120. Candidates may contact the testing office of the American Council on the Teaching of Foreign Languages (ACTFL) at 914-963-7110.
Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

- TOEFL: 79 iBT or 550 PBT
- IELTS: 6.5
- PTE Academic: 53

**Resume:** Current resume required.

**Transfer Credit:** Courses may be transferred from an accredited institution provided they were completed less than five years ago and are relevant to the program. The academic advisor makes the decision about the relevancy of the courses that the student desires to transfer. The maximum number of credits a student may transfer is 6.

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**Clearances:** A Pennsylvania criminal background check, a federal criminal history check, a child abuse clearance, and a TB test are required upon enrollment.

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### Program Requirements

#### General Program Requirements:

- **Number of Credits Required Beyond the Baccalaureate:** 46

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**World/Foreign Languages Education Courses**

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<tbody>
<tr>
<td>FLED 5429</td>
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<td>3</td>
</tr>
<tr>
<td>FLED 5431</td>
<td>Innovations in Foreign Language Education</td>
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Total Credit Hours 46

1. It is recommended that SPED 5666 be the first Special Education course taken by students in the program.

**Milestones:** Students must meet two milestones during their training:

- Intermediate Performance Assessment (IPA)
- Senior Performance Assessment (SPA)

**Culminating Events:** Student teaching and its related seminar are the culminating events for this program. For EDUC 5888 Supervised Teaching, students receive training and experiences in both secondary education and special education. The Supervised Teaching course for Secondary Education students entails 14 weeks of supervised teaching in a Secondary Education content area classroom.

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215-204-0999

**Submission Address for Application Materials:**

http://apply.temple.edu/coe

**Department Contacts:**

Admissions:
Office of Enrollment Management
educate@temple.edu
215-204-0999

### Special Education, M.Ed.

COLLEGE OF EDUCATION (http://education.temple.edu)


### About the Program

The master’s degree program in Special Education is designed for those who already hold certification in Art Education, Early Childhood Education, Elementary Education, Middle Grades Education, Music
Schools, Colleges, and Divisions

Education, or Physical Education. The program is grounded in its commitment to the following principles:

- Evidence-based instructional practices and their implementation in the classroom.
- Recognition and amelioration of the impact of sociocultural factors on the education of children with disabilities.
- Preventative approaches that de-emphasize labels and traditional diagnostic categories to support improved teaching and learning.
- Implementation of inclusive practices both within schools and within society as a whole.

The M.Ed. in Special Education offers three concentrations: Autism Spectrum Disorders, Mild Disabilities, or Severe Disabilities.

Time Limit for Degree Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered after 5:30 p.m. The degree program can be completed on a full- or part-time basis.

Accreditation: The program is approved as a teacher certification program by the Pennsylvania Department of Education and is accredited by the Teacher Education Accreditation Council (TEAC).

Areas of Specialization: The program offers concentrations in Autism Spectrum Disorders, Mild Disabilities, or Severe Disabilities. The scope of the Special Education certificate is grades PreK-8.

Job Prospects: The market for highly qualified special education teachers remains unabated. The U.S. Bureau of Labor Statistics reports an increased need for special education teachers. The shortage of special education teachers has been identified regionally (i.e., Pennsylvania and New Jersey) and is particularly prevalent in urban centers in the immediate environs of Temple University.

Licensure: Upon successful completion of the degree requirements and passing all required licensure examinations, candidates may apply for a Pennsylvania Instructional I Special Education PreK-8 Certificate.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. **Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.**

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:

*Fall:* March 1
*Spring:* November 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

Bachelor's Degree in Discipline/Related Discipline: A bachelor’s degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: In 500 to 1,000 words, outline your interest in seeking a master’s degree with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores:

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

- **TOEFL:** 79 iBT or 550 PBT
- **IELTS:** 6.5
- **PTE Academic:** 53

Resume: Current resume required.

Other Requirements:

1. Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned
2. A copy of a valid Pennsylvania Teaching Certification for Early Childhood, Elementary, Middle Grades, Art, Music, or Physical Education

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPED 5106</td>
<td>Literacy Instruction for Young Children with Disabilities</td>
<td>3</td>
</tr>
<tr>
<td>SPED 5107</td>
<td>Understanding and Using Special Education Research</td>
<td>3</td>
</tr>
<tr>
<td>SPED 5108</td>
<td>Assistive Technology and Universal Design</td>
<td>3</td>
</tr>
<tr>
<td>SPED 5109</td>
<td>Classroom Management and Positive Behavior Support</td>
<td>3</td>
</tr>
<tr>
<td>SPED 5187</td>
<td>Graduate Assessment Practicum in Early Childhood Special Education</td>
<td>3</td>
</tr>
<tr>
<td>SPED 5211</td>
<td>Effective Instructional Strategies for Young Children with Disabilities</td>
<td>3</td>
</tr>
</tbody>
</table>

Specialized Pedagogy Courses for Concentration

Autism Spectrum Disorders
Teaching English to Speakers of Other Languages (TESOL), M.S.Ed.

COLLEGE OF EDUCATION (http://education.temple.edu)

Learn more about the Master of Science in Education in Teaching English to Speakers of Other Languages (TESOL) (https://www.temple.edu/academics/degree-programs/teaching-english-to-speakers-of-other-languages-msed-ed-teso-msed).

About the Program

The Master of Science in Education program in Teaching English to Speakers of Other Languages (TESOL) is designed for professionals from a variety of backgrounds and with varied career interests. These include:

- Those interested in teaching positions that do not require state certification, including jobs overseas or in business settings, community agencies, college and university English language institutes, and parochial or other independent elementary and secondary schools.
- Those who are already certified to teach in a public school system in Pennsylvania and want to learn how to better meet the needs of English language learners.
- Those from abroad who desire to develop expertise in teaching English in their native country.

Time Limit for Degree Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered after 4:30 p.m. The degree program can be completed on a full- or part-time basis.

Job Prospects: Graduates are prepared to meet the needs of English language learners both stateside and abroad.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: Indicate your interest in seeking a master's degree with a specific focus on the career to which you aspire; your particular research, intellectual, and applied interests; and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores: Applicants whose native language is not English must provide scores from a TOEFL or IELTS exam. Scores must meet the following minimums:

TOEFL: 95 iBT or 587 PBT
IELTS: 7.0

Resume: Current resume required.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Program Requirements

General Program Requirements:  
Number of Credits Required Beyond the Baccalaureate: 31

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TESL 5611</td>
<td>Applied Language Study I: Phonology and the Lexicon</td>
<td>3</td>
</tr>
<tr>
<td>TESL 5612</td>
<td>Applied Language Study II: Grammar, Morphology and Classroom Discourse</td>
<td>3</td>
</tr>
<tr>
<td>TESL 5613</td>
<td>Multilingual Students' Literacy Development</td>
<td>3</td>
</tr>
<tr>
<td>TESL 5614</td>
<td>Current Approaches to Teaching English Language Learners</td>
<td>3</td>
</tr>
<tr>
<td>TESL 5616</td>
<td>Designing Assessment and Curriculum for Multilingual Students</td>
<td>3</td>
</tr>
<tr>
<td>TESL 5618</td>
<td>Second Language Development</td>
<td>3</td>
</tr>
<tr>
<td>TESL 5687</td>
<td>Practicum for Teaching English Language Learners</td>
<td>3</td>
</tr>
<tr>
<td>TESOL Electives</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

| TESL 5615 | Teaching English in a Global Context                                  |               |
| TESL 5621 | Contexts for Teaching and Learning Language                          |               |
| TESL 8625 | Applied Linguistics                                                  |               |
| TESL 8626 | Second Language Writing                                              |               |

TESL 8634 Bilingualism and Bilingual Education  
TESL 8636 Assessment of English Language Learners  
TESL 8643 Research Methods in Applied Linguistics  
TESL 8644 Current Issues in Applied Linguistics  
Non-TESOL Elective  
Non-Didactic Course  
EDUC 9993 Master's Comprehensive Examination 1

Total Credit Hours: 31

1. With advisor approval, other appropriate courses may be taken.
2. To fulfill this requirement, a course may be taken either within the College of Education or in other schools/colleges at Temple University. Non-TESOL electives are recommended to be taken in, but are not limited to, such fields as Anthropology, Educational Media, Educational Sociology, English, Foreign Language Education, Linguistics, Literacy, Secondary Education, and Urban Education.

Culminating Events:
Comprehensive Examination:
In order to take the comprehensive exam, the student must remain in good academic standing. Thus, the student cannot accumulate more than two grades below "B-" or one "F" and must maintain at least a 3.0 grade point average.

Contacts

Program Web Address:

Department Information:
Dept. of Teaching and Learning  
College of Education  
1301 Cecil B. Moore Avenue  
Philadelphia, PA 19122-6091  
educate@temple.edu  
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
Admissions:
Office of Enrollment Management  
educate@temple.edu  
215-204-0999

Urban Education, M.Ed.

COLLEGE OF EDUCATION (http://education.temple.edu)

About the Program

The M.Ed. in Urban Education provides students with an understanding of the social context of urban schools; historical and contemporary school reform efforts; and the relationship between broader social, political, and economic issues and the experiences of students and communities. This is done with a strong emphasis on social justice and creating bridges between theory and practice. The program aims to create engaged practitioners and leaders. Students currently in the classroom will be prepared to place their practice in its larger social and economic context, think critically about issues of policy and practice, and develop tools for creating change within their schools and beyond. Students choose from among three areas of specialization: Education Policy, School-Community Partnerships, and Teaching in Urban Schools.

Full-time program faculty specialize in class and race issues; sociological foundations of urban education; family-school relationships; risk and resilience; pre-service education for urban teachers; school-community collaboration; urban educational policy and reform; and youth culture. Affiliated faculty specialize in areas such as African American families and youth, community mediation, community-based research, gender issues in administration, higher education, multicultural education, race relations, sociology of education, urban studies, and writing instruction. For students interested in other areas of specialization, the program develops special links with appropriate faculty across the university.

Time Limit for Degree Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered after 4:30 p.m. The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: The Urban Education program is both interdisciplinary and intercollegiate, taking advantage of the strengths of various schools/colleges and departments at Temple. Program faculty include those with full-time assignments in Urban Education, as well as affiliated faculty assigned to other departments and programs, such as Africology and African American Studies; Anthropology; Communication Sciences; Educational Administration; Educational Psychology; English; Gender, Sexuality, and Women's Studies; Geography and Urban Studies; History; Political Science; Social Administration; Sociology; Teacher Education; and TESOL (English as a Second Language).

Areas of Specialization: Three specializations, as well as the opportunity to design one's own program individually with an advisor, are offered:

- Education Policy
- School-Community Partnerships
- Teaching in Urban Schools

Job Prospects: Graduates find jobs in school districts, advocacy agencies, and community-based organizations.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: Indicate your interest in seeking a master's degree with a specific focus on the career to which you aspire; your particular research, intellectual, and applied interests; and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores:

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 79 iBT or 550 PBT
IELTS: 6.5
PTE Academic: 53

Resume: Current resume required.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Core Courses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select three foundation courses from the following:</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>EDAD 5063</td>
<td>Educational Reform</td>
</tr>
</tbody>
</table>
URBE 5401 Policy and Practice in Urban Education
URBE 5501 Urban Schools
URBE 5565 The Origins of Urban Education
URBE 8602 Theory Seminar in Urban Schools

Geography and Urban Studies course 1  3
Research methods course 3
Specialization Courses 2  12

Capstone Project
Master’s Project 3
Total Credit Hours 30

1 Students select this course in consultation with an advisor.
2 Courses taken must be relevant to the student’s choice of specialization: Education Policy, School-Community Partnerships, and Teaching in Urban Schools.

Culminating Events:
Master’s Project:
The master’s project is a 3-credit, field-based experience that allows students to apply their knowledge in a practical setting and produce a written document that summarizes and synthesizes their learning.

Contacts

Program Web Address:
https://www.temple.edu/academics/degree-programs/urban-education-med-ed-urbe-med

Department Information:
Dept. of Policy, Organizational and Leadership Studies
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
Admissions:
Office of Enrollment Management
educate@temple.edu
215-204-0999

Urban School Leadership, M.Ed.

COLLEGE OF EDUCATION (http://education.temple.edu)


About the Program
The M.Ed. in Urban School Leadership is designed for students who are committed to service in Philadelphia and other urban centers who would benefit from a focus on urban schooling while earning principal certification and a master’s degree. The program prepares educators with the advanced knowledge and skills needed to lead in urban schools. Students are prepared to tackle the unique challenges of educating children in high need environments. Coursework includes opportunities to learn and explore with other committed professionals who are dedicated to the success of all teachers and all students.

Time Limit for Degree Completion: 4 years

Campus Location: Center City

Full-Time/Part-Time Status: Students complete the degree program in a hybrid format, both through classes and online courses. Courses meet for two weeks during the summer and one weekend a month during the school year. Designed for working professionals, the degree program is expected to be completed on a part-time basis.

Job Prospects: Graduates are prepared to step forward to lead urban schools and communities.

Non-Matriculated Student Policy: Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.

Financing Opportunities: Financial support opportunities may include scholarships, tuition remission, and other financial aid such as grants, loans, and federal work study.

Admission Requirements and Deadlines

Application Deadline:
Fall: March 1

Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

Bachelor’s Degree in Discipline/Related Discipline: A bachelor’s degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: Indicate your interest in seeking a master’s degree with a specific focus on the career to which you aspire; your particular research, intellectual, and applied interests; and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores:
Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 79 iBT or 550 PBT
IELTS: 6.5
PTE Academic: 53

Resume: Current resume required.

Other Requirements:
1. Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned
2. A copy of a valid Pennsylvania Teaching Certification

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDAD 5301</td>
<td>Leadership for Learning</td>
<td>3</td>
</tr>
<tr>
<td>EDAD 5302</td>
<td>Contexts for Sch Reform</td>
<td>3</td>
</tr>
<tr>
<td>EDAD 5303</td>
<td>Ldshp in Diverse Context</td>
<td>3</td>
</tr>
<tr>
<td>EDAD 5304</td>
<td>Sch Operations, Mgmt, Tech</td>
<td>3</td>
</tr>
<tr>
<td>EDAD 5305</td>
<td>Knowledge Sch Improve</td>
<td>3</td>
</tr>
<tr>
<td>EDAD 5306</td>
<td>Change Leadership</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 5101</td>
<td>Critical Understanding of Social Science Research</td>
<td>3</td>
</tr>
<tr>
<td>URBE 5401</td>
<td>Policy and Practice in Urban Education</td>
<td>3</td>
</tr>
<tr>
<td>URBE 5516</td>
<td>School-Community Partnerships in Urban Settings</td>
<td>3</td>
</tr>
<tr>
<td>URBE 5611</td>
<td>Reforming City Schools</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours 30

Concentration in Principal Leadership

The optional 6-credit concentration in Principal Leadership provides students with the necessary coursework needed to apply for Pennsylvania Principal Certification:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDAD 5307</td>
<td>Clin Exp in Sch Ldship</td>
<td>3</td>
</tr>
<tr>
<td>EDAD 5308</td>
<td>Clinical Experiences in School Leadership 2</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours 6

Culminating Events: Successful completion of coursework is required to earn the Urban School Leadership M.Ed.

Contacts

Program Web Address:
https://www.temple.edu/academics/degree-programs/urban-school-leadership-med-usl-med

Department Information:
Dept. of Policy, Organizational and Leadership Studies
College of Education

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
Admissions:
Office of Enrollment Management
educate@temple.edu
215-204-0999

Graduate Certificate: Applied Behavior Analysis

COLLEGE OF EDUCATION (http://education.temple.edu)

Learn more about the graduate certificate in Applied Behavior Analysis (https://www.temple.edu/academics/degree-programs/applied-behavior-analysis-certificate-graduate-ed-aba-grad).

About the Certificate

The graduate certificate in Applied Behavior Analysis trains students to apply the principles of learning and behavior to influence behavior change that is significant to society. Learn to systematically change behavior by analyzing related environmental variables and applying interventions based on the principles of behavior analysis. Behavior analysts have improved a wide range of everyday issues, including enhancing staff performance, promoting industrial and public safety initiatives, teaching effective parenting skills, treating problem behavior in children, improving general and special education teaching strategies, rehabilitating individuals who abuse substances, and more.

This graduate-level certificate program teaches you:

- effective instructional strategies for teaching students with autism spectrum disorders,
- ethical practices for behavioral analysts,
- implementation of a behavioral change program,
- theoretical foundations of behavioral analysis, and more.

The program course of study fulfills the coursework requirements of the Behavior Analyst Certification Board (BACB®), but does not culminate in a degree.

Educational or social services professionals who would like to achieve Board Certified Behavior Analyst® (BCBA®) certification without enrolling in a graduate degree program (e.g., professionals who already have a degree acceptable to the Behavior Analyst Certification Board) are excellent candidates for this graduate-level, continuing education certificate program. If interested in the coursework and a degree in applied behavior analysis, consider the Master of Science in Education in Applied Behavior Analysis. That program fulfills both the degree and coursework requirements for BCBA® certification.

Time Limit for Certificate Completion: 2 years
Campus Location: Main

Full-Time/Part-Time Status: The graduate certificate can be completed on a part-time basis.

Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits of coursework before applying to the graduate certificate program.

Accreditation: The certificate program includes a 6-course sequence approved by BACB®.

Job Prospects: Graduates are prepared for professional careers in a variety of environments, particularly in social service agencies and educational institutions.

Licensure: Coursework may apply toward earning the Behavior Specialist license from the Commonwealth of Pennsylvania.

Admission Requirements and Deadlines

Application Deadline: Applications are accepted for the Fall and Spring terms and are reviewed on a rolling basis.

APPLY ONLINE to this certificate program.

Letters of Reference:
Number Required: 2
From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

Bachelor’s Degree in Discipline/Related Discipline: A bachelor’s degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: Outline your interest in seeking a graduate certificate with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores:
Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 79 iBT or 550 PBT
IELTS: 6.5
PTE Academic: 53

Resume: Current resume required.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Certificate Requirements

Number of Credits Required to Complete the Certificate: 21

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABA 5302</td>
<td>Students with Autism Spectrum Disorders: Effective Teaching Strategies</td>
<td>3</td>
</tr>
<tr>
<td>ABA 5303</td>
<td>Ethics and Applied Behavior Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ABA 5304</td>
<td>Concepts and Principles of Behavior Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ABA 5305</td>
<td>Single Subject Research Design</td>
<td>3</td>
</tr>
<tr>
<td>ABA 5306</td>
<td>Organizational Behavior Management - OBM</td>
<td>3</td>
</tr>
<tr>
<td>ABA 5676</td>
<td>Applied Behavior Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ABA 8787</td>
<td>Seminar on Verbal Behavior</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours: 21

1 Students who choose to matriculate into the M.S.Ed. program may transfer up to 12 credits from either this certificate or the Autism Endorsement graduate certificate (https://www.temple.edu/academics/degree-programs/autism-endorsement-certificate-graduate-ed-aten-grad) upon acceptance into the M.S.Ed. program. Completion of a certificate program does not guarantee admission into the master’s program. Students considering matriculating into a master’s program are encouraged to apply as early as possible.

Contacts

Certificate Program Web Address:
https://www.temple.edu/academics/degree-programs/applied-behavior-analysis-certificate-graduate-ed-aba-grad

Department Information:
Dept. of Psychological Studies in Education
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
Admissions:
Office of Enrollment Management
educate@temple.edu
215-204-0999

Graduate Certificate: Autism Endorsement

COLLEGE OF EDUCATION (http://education.temple.edu)

Learn more about the graduate certificate in Autism Endorsement (https://www.temple.edu/academics/degree-programs/autism-endorsement-certificate-graduate-ed-aten-grad).
About the Certificate

Pennsylvania is experiencing a considerable increase in the proportion of students with autism eligible for services. A significant need exists for well-trained professionals holding various Level I and Level II certificates of professional competence to serve students with autism and related Autism Spectrum Disorders (ASD).

The graduate certificate in Autism Endorsement offers a competency-based sequence of courses and a practicum for certified teachers who support students with ASD. All courses are grounded in applied behavior analysis and demonstrate research-based practices that enable students to gain the knowledge, specific skills, and competencies to effectively educate children with ASD and work with their families. Students learn from renowned faculty in Temple’s College of Education, which is consistently ranked among the nation’s best by U.S. News and World Report. Flexible practicum options are available.

Completion of the certificate program ensures that graduates enhance their marketability as certified teachers when seeking positions in inclusive settings. Students who successfully complete the program are eligible to receive Pennsylvania’s Autism Spectrum Disorders Endorsement Certificate (http://www.education.pa.gov/Documents/Teachers-Administrators/Certification%20Preparation%20Programs/Specific%20Program%20Guidelines/AutismSpectrumDisorders_Endorsement%20Guidelines.pdf).

Time Limit for Certificate Completion: 2 years
Campus Location: Main, with convenient night classes offered
Full-Time/Part-Time Status: The graduate certificate can be completed on a part-time basis.
Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits of coursework before applying to the graduate certificate program.

Admission Requirements and Deadlines

Application Deadline:
Applications are accepted for the Fall, Spring, and Summer terms and are reviewed on a rolling basis.

APPLY ONLINE to this certificate program.

Letters of Reference:
Number Required: 2
From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

Bachelor’s Degree in Discipline/Related Discipline: A bachelor’s degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: Outline your interest in seeking a graduate certificate with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores:
Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 79 iBT or 550 PBT
IELTS: 6.5
PTE Academic: 53

Resume: Current resume required.
Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Certificate Requirements

Number of Didactic Credits Required to Complete the Certificate: 12

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPED 5109</td>
<td>Classroom Management and Positive Behavior Support</td>
<td>3</td>
</tr>
<tr>
<td>SPED 5301</td>
<td>Building Communication in Students with Autism Spectrum Disorder and Severe Disabilities</td>
<td>3</td>
</tr>
<tr>
<td>SPED 5302</td>
<td>Students with Autism Spectrum Disorders: Effective Teaching Strategies</td>
<td>3</td>
</tr>
<tr>
<td>SPED 9287</td>
<td>Practicum in Special Education</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours: 12

1 Students who choose to matriculate into the M.S.Ed. program may transfer up to 12 credits from the Autism Endorsement certificate upon acceptance into the M.S.Ed. program. Completion of a certificate program does not guarantee admission into the master’s program. Students considering matriculating into a master’s program are encouraged to apply as early as possible.

Contacts

Certificate Program Web Address:
https://www.temple.edu/academics/degree-programs/autism-endorsement-certificate-graduate-ed-aten-grad

Department Information:
Dept. of Teaching and Learning
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe
Graduate Certificate: College Access and Success

COLLEGE OF EDUCATION (http://education.temple.edu)

Learn more about the graduate certificate in College Access and Success (https://www.temple.edu/academics/degree-programs/college-access-and-success-certificate-graduate-ed-cas-grad).

About the Certificate

The graduate certificate in College Access and Success aims to provide a post-baccalaureate credential that aligns with the primary goals of the M.Ed. program in Higher Education. As the College of Education strives to prepare existing and incoming professionals in the ever-changing landscape of higher and postsecondary education, this certificate serves as a critical bridge to helping these service providers develop marketable skills and competencies. Courses offered through this graduate certificate program challenge norms by placing significant emphasis on urban issues and themes of equity, access, and affordability in higher and postsecondary education.

Time Limit for Certificate Completion: 2 years

Campus Location: Main

Full-Time/Part-Time Status: The graduate certificate can be completed on a part-time basis.

Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits of coursework before applying to the graduate certificate program.

Admission Requirements and Deadlines

Application Deadline: Applications are accepted for the Fall, Spring, and Summer terms and are reviewed on a rolling basis. APPLY ONLINE to this certificate program.

Letters of Reference: Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

Bachelor’s Degree in Discipline/Related Discipline: A bachelor’s degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: Outline your interest in seeking a graduate certificate with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores:

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 79 iBT or 550 PBT
IELTS: 6.5
PTE Academic: 53

Resume: Current resume required.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Certificate Requirements

Number of Didactic Credits Required to Complete the Certificate: 12

Required Courses:

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tr>
<td>HIED 5103</td>
<td>Access and Equity in Higher Education</td>
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<td>HIED 5201</td>
<td>Diversity Issues in Higher Education</td>
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<td>HIED 5202</td>
<td>Higher Education Economics and Finance</td>
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<td>HIED 5203</td>
<td>Getting into College: Strategic Enrollment</td>
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Total Credit Hours 12

Contacts

Certificate Program Web Address: https://www.temple.edu/academics/degree-programs/college-access-and-success-certificate-graduate-ed-cas-grad

Department Information:

Department of Policy, Organizational and Leadership Studies
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:

Admissions:
Office of Enrollment Management
educate@temple.edu
215-204-0999
Graduate Certificate: Conflict Process

COLLEGE OF EDUCATION (http://education.temple.edu)


About the Certificate

The graduate certificate in Conflict Process is designed for the professional who works regularly with conflict management and dispute resolution in her/his profession. Students learn the causes of conflict, the dynamics of conflict, and the variety of approaches for managing conflict. Four required courses focus on conflict theory and practice in organizational, group, and community contexts. The program’s strong emphasis on integration of theory and practice develops students’ knowledge and skills.

Time Limit for Certificate Completion: 2 years, although the certificate is designed to be completed within a one-year period

Campus Location: Main, with classes offered in the evening and on weekends

Full-Time/Part-Time Status: The graduate certificate can be completed on a part-time basis.

Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits of coursework before applying to the graduate certificate program.

Admission Requirements and Deadlines

Application Deadline: Applications are accepted for the Fall and Spring terms and are reviewed on a rolling basis.

APPLY ONLINE to this certificate program.

Letters of Reference: Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

Bachelor’s Degree in Discipline/Related Discipline: A bachelor’s degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: Outline your interest in seeking a graduate certificate with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores: Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 79 iBT or 550 PBT
IELTS: 6.5
PTE Academic: 53

Resume: Current resume required.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Certificate Requirements

Number of Didactic Credits Required to Complete the Certificate: 12

Required Courses:

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<th>Credit Hours</th>
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<tr>
<td>AOD 5402</td>
<td>Communication and Conflict</td>
<td>3</td>
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<tr>
<td>AOD 5516</td>
<td>Negotiation Processes</td>
<td>3</td>
</tr>
<tr>
<td>AOD 5518</td>
<td>Third-Party Conflict Intervention</td>
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<tr>
<td>AOD 5524</td>
<td>Sociocultural Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>or AOD 5533</td>
<td>Team Development</td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours 12

Contacts


Department Information:

Dept. of Policy, Organizational and Leadership Studies
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:

Admissions:
Office of Enrollment Management
educate@temple.edu
215-204-0999

Graduate Certificate: Data-Driven Decision Making

COLLEGE OF EDUCATION (http://education.temple.edu)
Learn more about the graduate certificate in Data-Driven Decision Making (https://www.temple.edu/academics/degree-programs/data-driven-decision-making-certificate-graduate-ed-dddm-grad).

**About the Certificate**

Data-driven decision making refers to the practice of using systematically collected and analyzed information to guide key decisions about policy or practice in business, education, government, or other contexts. A growing need exists among organizations of all sorts for employees with knowledge about data-driven decision making, an important trend in the field and one that complements the expertise of our educational psychology faculty. The graduate certificate program is designed for data users and decision makers from many different kinds of organizations, including schools, colleges, social service groups, nonprofits, government, and business.

The success of data-driven decision making depends on knowing what information to collect, how to collect it, how to analyze it, how to interpret the findings, and how to translate these understandings into subsequent action. Flexible sequencing of courses, potentially flexible modes of course delivery (e.g., face-to-face, hybrid, online), and a culminating paper on a flexible topic allow students in the graduate certificate program to customize training to fit their personal interests.

**Time Limit for Certificate Completion:** 2 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The graduate certificate can be completed on a part-time basis.

**Non-Matriculated Student Policy:** Non-matriculated students may take up to 9 credits of coursework before applying to the graduate certificate program.

**Admission Requirements and Deadlines**

**Application Deadline:**
Applications are accepted for the Fall, Spring, and Summer terms and are reviewed on a rolling basis.

APPLY ONLINE to this certificate program.

**Letters of Reference:**
Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

**Bachelor's Degree in Discipline/Related Discipline:** A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

**Statement of Goals:** Outline your interest in seeking a graduate certificate with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

**Standardized Test Scores:**

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

- TOEFL: 79 iBT or 550 PBT
- IELTS: 6.5
- PTE Academic: 53

**Resume:** Current resume required.

**Other Requirement:** Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

**Certificate Requirements**

Number of Didactic Credits Required to Complete the Certificate: 12

**Required Courses:**

<table>
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<th>Credit Hours</th>
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<tr>
<td>EDUC 5101</td>
<td>Critical Understanding of Social Science Research</td>
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<tr>
<td>EDUC 5325</td>
<td>Introduction to Statistics and Research</td>
<td>3</td>
</tr>
<tr>
<td>EPSY 5523</td>
<td>Introduction to Educational Psychology</td>
<td>3</td>
</tr>
<tr>
<td>EPSY 5511</td>
<td>Introduction to Program Evaluation</td>
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</table>

Total Credit Hours 12

**Contacts**

**Certificate Program Web Address:**
https://www.temple.edu/academics/degree-programs/data-driven-decision-making-certificate-graduate-ed-dddm-grad

**Department Information:**
Dept. of Psychological Studies in Education
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

**Submission Address for Application Materials:**
http://apply.temple.edu/coe

**Department Contacts:**

**Admissions:**
Office of Enrollment Management
educate@temple.edu
215-204-0999

**Graduate Certificate: Digital Education Leadership**

[COLLEGE OF EDUCATION (http://education.temple.edu)](http://education.temple.edu)

Learn more about the graduate certificate in Digital Education Leadership (https://www.temple.edu/academics/degree-programs/digital-education-leadership-certificate-graduate-ed-del-grad).
About the Certificate

The graduate certificate in Digital Education Leadership aims to provide a post-baccalaureate credential that aligns with the primary goals of the proposed M.Ed. program in Higher Education. As the College of Education strives to prepare professionals in the ever-changing landscape of higher and postsecondary education, this certificate serves as a critical bridge to helping prospective leaders develop the vision, marketable skills, and competencies that facilitate responsible institutional change in this emergent field. Courses offered through this graduate certificate program prepare candidates to make sound structural and technological decisions regarding effective digitally based learning, teaching, and student development.

Time Limit for Certificate Completion: 2 years

Campus Location: Main

Full-Time/Part-Time Status: The graduate certificate can be completed on a part-time basis.

Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits of coursework before applying to the graduate certificate program.

Admission Requirements and Deadlines

Application Deadline:
Applications are accepted for the Fall, Spring, and Summer terms and are reviewed on a rolling basis.

APPLY ONLINE to this certificate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

Bachelor’s Degree in Discipline/Related Discipline: A bachelor’s degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: Outline your interest in seeking a graduate certificate with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores:
Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 79 iBT or 550 PBT
IELTS: 6.5
PTE Academic: 53

Resume: Current resume required.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Certificate Requirements

Number of Didactic Credits Required to Complete the Certificate: 12

Required Courses:

<table>
<thead>
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<tr>
<td>EDUC 8232</td>
<td>Technology, Teaching, and Learning</td>
<td>3</td>
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<tr>
<td>EPSY 5501</td>
<td>ILT: Multimedia Learning</td>
<td>3</td>
</tr>
<tr>
<td>HIED 5104</td>
<td>College Students and Development Theory</td>
<td>3</td>
</tr>
<tr>
<td>HIED 5502</td>
<td>Digital Education Leadership</td>
<td>3</td>
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Total Credit Hours: 12

Contacts

Certificate Program Web Address:
https://www.temple.edu/academics/degree-programs/digital-education-leadership-certificate-graduate-ed-del-grad

Department Information:
Department of Policy, Organizational and Leadership Studies
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
Admissions:
Office of Enrollment Management
educate@temple.edu
215-204-0999

Graduate Certificate: Disability Studies

COLLEGE OF EDUCATION (http://education.temple.edu)

Learn more about the graduate certificate in Disability Studies (https://www.temple.edu/academics/degree-programs/disability-studies-certificate-graduate-ed-diss-grad).

About the Certificate

Disability Studies offers a course of study that explores disability from historical, cultural, and sociopolitical perspectives. Focus is placed on disability within a social and political context, challenging the notion that the statuses and roles of individuals with disability result from physical or psychological aspects of disability. Scholars in the field of Disability Studies recognize the necessity of focusing their work on issues of disability within a traditional discipline, but also require a familiarity with
work on disability in other disciplines to enrich their own understandings. It is for this philosophical reason that the graduate certificate in Disability Studies is interdisciplinary and jointly sponsored by the Institute on Disabilities and the College of Education.

The graduate certificate in Disability Studies draws on resources in a broad array of disciplines from the liberal arts and social sciences to the allied health professions. It develops a more accurate understanding and appreciation of people with disabilities and the evolution of their civil rights movement. The graduate certificate can be earned in conjunction with a wide variety of disciplines. Disability Studies provides students with an opportunity to reflect critically on practices and approaches that may be taken for granted in their home disciplines. Particular strengths include the social history of disability and ableism, disability and health, ecological aspects of disablement, universal design, disability social policy, and constituency-oriented research on disability rights and culture.

**Time Limit for Certificate Completion:** 2 years

**Campus Location:** Main and Online

**Full-Time/Part-Time Status:** The graduate certificate can be completed on a part-time basis.

**Non-Matriculated Student Policy:** Non-matriculated students may take up to 9 credits of coursework before applying to the graduate certificate program.

**Financing Opportunities:** Students currently enrolled in a terminal degree program at Temple University should contact the Institute on Disabilities to inquire about graduate assistantship opportunities.

**Admission Requirements and Deadlines**

**Application Deadline:** Applications are accepted for the Fall, Spring, and Summer terms and are reviewed on a rolling basis.

Students already enrolled in a Temple University graduate degree program APPLY ONLINE through an internal application.

Prospective students not currently enrolled in a Temple University graduate degree program APPLY ONLINE to this certificate program.

**Letters of Reference:**

**Number Required:** 2

**From Whom:** Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

**Bachelor’s Degree in Discipline/Related Discipline:** A bachelor’s degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

**Statement of Goals:** Outline your interest in seeking a graduate certificate with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

**Standardized Test Scores:**

Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

- **TOEFL:** 79 iBT or 550 PBT
- **IELTS:** 6.5
- **PTE Academic:** 53

**Resume:** Current resume required.

**Other Requirement:** Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

**Certificate Requirements**

**Number of Didactic Credits Required to Complete the Certificate:** 12

**Required Courses:**

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>DSST 5401</td>
<td>Disability Rights and Culture</td>
<td>3</td>
</tr>
<tr>
<td>DSST 9489</td>
<td>Field Work in Disability Studies</td>
<td>3</td>
</tr>
</tbody>
</table>

**Electives**

Select two of the following:

- **DSST 5402** Action Modes of Research
- **DSST 5403** Disability and Social Policy
- **DSST 5405** Disability Studies in the Humanities

**Total Credit Hours:** 12

**Contacts**

**Certificate Program Web Address:**

https://www.temple.edu/academics/degree-programs/disability-studies-certificate-graduate-ed-diss-grad

**Department Information:**

Institute on Disabilities at the College of Education

Howard Gittis Student Center, Room 411S
1755 N. 13th Street
Philadelphia, PA 19122-6011
iod@temple.edu
Voice: 215-204-1356
TTY: 1-215-204-1805

**Submission Address for Materials for Applicants Currently Enrolled in a Temple University Graduate Program:**

https://edtemple.tk20.com/campustoolshighered/admissions1.do

**Submission Address for Materials for Applicants Not Currently Enrolled in a Temple University Graduate Program:**

http://apply.temple.edu/coe
Graduate Certificate: Diversity Leadership

COLLEGE OF EDUCATION (http://education.temple.edu)

Learn more about the graduate certificate in Diversity Leadership (https://www.temple.edu/academics/degree-programs/diversity-leadership-certificate-graduate-ed-divl-grad).

About the Certificate

The graduate certificate in Diversity Leadership is designed to provide a broad range of knowledge related to the field of diversity and to create reflective practitioners who can lead and support formal and informal learning collaborations by diverse groups in higher education and K-12 educational settings. The broader vision is that certificate holders contribute to the creation of responsible, ethical citizens able to collaborate in an increasingly diverse world.

A sequence of four courses allows students to build on the knowledge learned from each previous course. First, key foundational principles, policies, and procedures used in the field of diversity in higher education are introduced. Second, students are introduced to the models and theories for developing partnerships and serving as change agents within institutions. They also learn about strategic planning and assessment of diversity initiatives. In the third and fourth courses, the student is facilitator, leading diverse groups in a variety of settings and helping to create self-awareness of their own positionality and attitudes about diversity.

Time Limit for Certificate Completion: 2 years

Campus Location: Main

Full-Time/Part-Time Status: The graduate certificate can be completed in the Summer term between mid-May and late July. Courses 1 and 2 are offered in Summer I, each over three consecutive weekends, with the exception of the Memorial Day weekend. Classes run Friday evenings from 4:00 p.m. to 9:00 p.m. and Saturdays from 9:00 a.m. to 5:00 p.m. Courses 3 and 4 are offered in Summer II. In addition to the Friday/Saturday schedule, classes are also held on Sundays from 10:00 a.m. to 3:30 p.m. Course 3 runs for two consecutive weekends, with course 4 completing the course schedule the following weekend.

Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits of coursework before applying to the graduate certificate program.

Admission Requirements and Deadlines

Application Deadline: Applications are accepted for the Fall, Spring, and Summer terms and are reviewed on a rolling basis.

APPLY ONLINE to this certificate program.

Letters of Reference: Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: Outline your interest in seeking a graduate certificate with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores: Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 79 iBT or 550 PBT
IELTS: 6.5
PTE Academic: 53

Resume: Current resume required.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Certificate Requirements

Number of Didactic Credits Required to Complete the Certificate: 12

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<tr>
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<tr>
<td>HIED 5201</td>
<td>Diversity Issues in Higher Education (Course 1)</td>
<td>3</td>
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<tr>
<td>URBE 5516</td>
<td>School-Community Partnerships in Urban Settings (Course 2)</td>
<td>3</td>
</tr>
<tr>
<td>URBE 5620</td>
<td>Special Topics in Urban Education (Course 4 &quot;Group Practices for Multicultural Democracies&quot;)</td>
<td>3</td>
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</tbody>
</table>

Total Credit Hours: 12

Contacts

Certificate Program Web Address:

https://www.temple.edu/academics/degree-programs/diversity-leadership-certificate-graduate-ed-divl-grad

Department Information:

Dept. of Policy, Organizational and Leadership Studies
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999
Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
Admissions:
Office of Enrollment Management
educate@temple.edu
215-204-0999

Graduate Certificate: English as a Second Language

COLLEGE OF EDUCATION (http://education.temple.edu)

Learn more about the graduate certificate in English as a Second Language (https://www.temple.edu/academics/degree-programs/english-as-a-second-language-certificate-graduate-ed-ensl-grad).

About the Certificate

The student population with ESL (English as a Second Language) needs has been increasing dramatically across Pennsylvania. In 2010, the U.S. Department of Education reported a 114.5% increase in the ESL population in Pennsylvania public schools over the previous ten years, with a 1.4% decrease in all other student populations. This significant growth has led to an increased need for trained ESL teachers. While the ESL graduate certificate is required for individuals to lead ESL classes, it is also strongly recommended for all teachers as Pennsylvania classrooms become increasingly diverse.

In response to the significant need for well-trained ESL and mainstream teachers, Temple’s ESL certificate program offers a set of four challenging and practical courses that prepare teachers to work effectively with ESL students. Through this program, students develop a foundation in English usage, linguistic awareness, and second language acquisition. They also learn to adapt and develop instructional materials for ESL students; administer and interpret a variety of formative and summative assessments; become knowledgeable about support services for English language learners; and develop cultural awareness and sensitivity. Because each course includes fieldwork, students have frequent opportunities to teach ESL students throughout the program, immediately applying newly learned concepts and skills. Courses are taught by full-time Temple faculty to ensure students are guided by experts in the field and receive a high-quality education. ESL certificate course credits can also be applied toward Temple University’s M.S.Ed. in Teaching English to Speakers of Other Languages (TESOL) (http://bulletin.temple.edu/graduate/scd/education/teaching-english-speakers-other-languages-msed).

The ESL graduate certificate can currently be added to any valid Pennsylvania Instructional I or II teaching certificate. However, to obtain a position as an ESL teacher in a public school, individuals must be certified in Early Childhood Education, Middle Grades English, or Secondary English. Students with certificates in other Middle Grades or Secondary content areas should take the Praxis II for English to add this credential.

Time Limit for Certificate Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: The graduate certificate can be completed on a part-time basis.

Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits of coursework before applying to the graduate certificate program.

Admission Requirements and Deadlines

Application Deadline:
Applications are accepted for the Fall, Spring, and Summer terms and are reviewed on a rolling basis.

Prospective students should hold an Instructional I or II certificate that is valid in Pennsylvania. Alternatively, students may be accepted if they are matriculated in a certification program at Temple University:

• Undergraduates currently matriculated in a Temple teacher certification program are eligible for the certificate program after achieving candidacy with a minimum GPA of 3.0.
• Graduate students with good academic standing while enrolled in a teacher certification program are also eligible for the certificate program.

Prospective students not currently matriculated in a Temple University teacher certification program must APPLY ONLINE to this certificate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

Bachelor’s Degree in Discipline/Related Discipline: A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

Applicants who have taken some TESOL courses, who have experience as an ESL teacher, and/or who participated in ESL-related professional development activities may request a credential review.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: Outline your interest in seeking a graduate certificate with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores:
Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 79 iBT or 550 PBT
IELTS: 6.5
PTE Academic: 53

Resume: Current resume required.

Other Requirements:
1. Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned
2. A copy of a valid Pennsylvania Instructional I or II Teaching Certification or evidence of enrollment in a certification program

Certificate Requirements

Number of Didactic Credits Required to Complete the Certificate: 12

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TESL 5613</td>
<td>Multilingual Students’ Literacy Development</td>
<td>3</td>
</tr>
<tr>
<td>TESL 5616</td>
<td>Designing Assessment and Curriculum for Multilingual Students</td>
<td>3</td>
</tr>
<tr>
<td>TESL 5621</td>
<td>Contexts for Teaching and Learning Language</td>
<td>3</td>
</tr>
<tr>
<td>TESL 5631</td>
<td>Foundations of Teaching and Meeting the Needs of English Language Learners</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours: 12

Contacts

Certificate Program Web Address:
https://www.temple.edu/academics/degree-programs/english-as-a-second-language-certificate-graduate-ed-ensl-grad

Department Information:
Dept. of Teaching and Learning
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
Admissions:
Office of Enrollment Management
educate@temple.edu
215-204-0999

Graduate Certificate: English Language Teaching

COLLEGE OF EDUCATION (http://education.temple.edu)

Learn more about the graduate certificate in English Language Teaching (https://www.temple.edu/academics/degree-programs/english-language-teaching-certificate-graduate-ed-eltc-grad).

About the Certificate

The graduate certificate in English Language Teaching equips students with a foundational understanding of language structure and development as well as strategies for teaching and working with English language learners beyond the K-12 classroom in the United States. Please note that this certificate does not lead to teacher certification and, therefore, is not intended for teacher education students. Teaching English in K-12 classrooms in the United States requires state certification and, in Pennsylvania, the Pennsylvania Program Specialist: ESL Certificate. If you are enrolled in a teacher education program leading toward Pennsylvania Instructional I certification or currently hold this certification, please review the Teaching English to Speakers of Other Languages (TESOL) M.S.Ed. (p. 466) program.

Grounded in a socio-cultural perspective, the program provides firsthand practical experience to build language teaching skills, including lesson planning/delivery, curriculum development, and assessment. Upon completion, students find themselves knowledgeable of the cultural, social, and political complexities of language education, its learning, and use, and are able to skillfully draw on this awareness in a broad range of international, professional, and teaching contexts. This program is ideal for those who want to develop a solid foundation for teaching English to non-native speakers and can serve as a critical pathway to the master’s program in Teaching English to Speakers of Other Languages (TESOL).

Time Limit for Certificate Completion: 2 years

Campus Location: Main

Full-Time/Part-Time Status: The graduate certificate can be completed on a part-time basis.

Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits of coursework before applying to the graduate certificate program.

Admission Requirements and Deadlines

Application Deadline:
Applicants may apply for the Fall 2018 term. Applications are reviewed on a rolling basis.

APPLY ONLINE to this certificate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

Bachelor's Degree in Discipline/Related Discipline: A bachelor’s degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferment of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: Outline your interest in seeking a graduate certificate with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores:
Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

- TOEFL: 95 iBT or 587 PBT
- IELTS: 7.0
Graduate Certificate: Institutional Effectiveness

COLLEGE OF EDUCATION (http://education.temple.edu)

Learn more about the graduate certificate in Institutional Effectiveness (https://www.temple.edu/academics/degree-programs/institutional-effectiveness-certificate-graduate-ed-inef-grad).

About the Certificate

The graduate certificate in Institutional Effectiveness is for students who wish to focus their graduate training on developing skills to support institutional research, data-driven decision making, and student success analytics. The certificate is particularly timely and relevant, given the focus nationally on increasing the capacity of colleges and universities to advance student success and the rapidly increasing application of predictive analytics within university advising and administration.

Time Limit for Certificate Completion: 2 years

Campus Location: Main

Full-Time/Part-Time Status: The graduate certificate can be completed on a part-time basis.

Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits of coursework before applying to the graduate certificate program.

Admission Requirements and Deadlines

Application Deadline:
Applications are accepted for the Fall, Spring, and Summer terms and are reviewed on a rolling basis.

APPLY ONLINE to this certificate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

Bachelor's Degree in Discipline/Related Discipline: A bachelor’s degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: Outline your interest in seeking a graduate certificate with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores:
Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 79 iBT or 550 PBT

Certificate Program Web Address:
https://www.temple.edu/academics/degree-programs/english-language-teaching-certificate-graduate-ed-eltc-grad
Learning Technology certificate program provides students with the expertise and competencies to implement learning strategies through the use of technology. The certificate program is designed for working professionals with diverse professional goals, including:

- Educators in public, charter, independent, parochial, and other religiously affiliated institutions.
- Corporate and government trainers and adult educators.
- Faculty and instructional leaders in higher education.

**Time Limit for Certificate Completion:** 2 years

**Campus Location:** Online

**Full-Time/Part-Time Status:** The graduate certificate can be completed on a part-time basis.

**Non-Matriculated Student Policy:** Non-matriculated students may take up to 9 credits of coursework before applying to the graduate certificate program.

**Admission Requirements and Deadlines**

**Application Deadline:**
Applications are accepted for the Fall, Spring, and Summer terms and are reviewed on a rolling basis.

**APPLY ONLINE to this certificate program.**

**Letters of Reference:**

**Number Required:** 2

**From Whom:** Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

**Bachelor's Degree in Discipline/Related Discipline:** A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

**Statement of Goals:** Outline your interest in seeking a graduate certificate with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

**Standardized Test Scores:**
Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

- TOEFL: 79 iBT or 550 PBT
- IELTS: 6.5
- PTE Academic: 53

**Resume:** Current resume required.

**Other Requirement:** Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.
Certificate Requirements

Number of Didactic Credits Required to Complete the Certificate: 12

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>EDUC 5212</td>
<td>Curriculum, Instruction, and Technology in Education</td>
<td>3</td>
</tr>
<tr>
<td>EPSY 5499</td>
<td>ILT: Instructional Technology and Learning</td>
<td>3</td>
</tr>
<tr>
<td>EPSY 8639</td>
<td>Instructional Design and Development</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>Select one of these courses:</td>
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<tr>
<td>EDUC 5255</td>
<td>Tech in Classrooms: TPCK</td>
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</tr>
<tr>
<td>EDUC 8232</td>
<td>Technology, Teaching, and Learning</td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours 12

Contacts

Certificate Program Web Address:
https://www.temple.edu/academics/degree-programs/instructional-learning-technology-certificate-graduate-ed-ilt-grad

Department Information:
Dept. of Teaching and Learning
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
Admissions:
Office of Enrollment Management
educate@temple.edu
215-204-0999

Graduate Certificate: Student Affairs Leadership

COLLEGE OF EDUCATION (http://education.temple.edu)

Learn more about the graduate certificate in Student Affairs Leadership (https://www.temple.edu/academics/degree-programs/student-affairs-leadership-certificate-graduate-ed-safl-grad).

About the Certificate

The graduate certificate in Student Affairs Leadership is for students who aspire specifically to serve in administrative roles in student affairs and related areas such as athletics administration, residential life, and student activities. Building on course offerings in the M.Ed. in Higher Education program, this certificate deepens students’ understanding of and skills in student affairs administration, including focusing on the current leadership contexts and best practices in managing student life and engagement in colleges and universities.

Time Limit for Certificate Completion: 2 years

Campus Location: Main

Full-Time/Part-Time Status: The graduate certificate can be completed on a part-time basis.

Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits of coursework before applying to the graduate certificate program.

Admission Requirements and Deadlines

Application Deadline:
Applications are accepted for the Fall, Spring, and Summer terms and are reviewed on a rolling basis.

APPLY ONLINE to this certificate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

Bachelor's Degree in Discipline/Related Discipline: A bachelor’s degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: Outline your interest in seeking a graduate certificate with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores:
Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 79 iBT or 550 PBT
IELTS: 6.5
PTE Academic: 53

Resume: Current resume required.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Certificate Requirements

Number of Didactic Credits Required to Complete the Certificate: 12

Required Courses:
Contact Information:
Certificate Program Web Address:
https://www.temple.edu/academics/degree-programs/student-affairs-leadership-certificate-graduate-ed-safl-grad

Department Information:
Department of Policy, Organizational and Leadership Studies
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
Admissions:
Office of Enrollment Management
educate@temple.edu
215-204-0999

Graduate Certificate: Teaching in Higher Education

COLLEGE OF EDUCATION (http://education.temple.edu)

Learn more about the graduate certificate in Teaching in Higher Education (https://www.temple.edu/academics/degree-programs/teaching-in-higher-education-certificate-graduate-ed-tche-grad).

About the Certificate

The graduate certificate in Teaching in Higher Education has been developed for current faculty members looking to enhance their teaching or advance their career, as well as for high school teachers and professionals in other fields who would like to teach in higher education. Completion of the coursework for the certificate prepares students to:

- appreciate learning-centered teaching;
- apply research on learning and adult development to teaching;
- utilize the principles of integrated course design in developing syllabi, assessments, and learning activities;
- use a variety of research-based teaching methods to promote learning, development, and achievement of all students;
- practice a reflective, purposeful, and learning-centered approach to teaching; and
- independently learn, evaluate, and assimilate future research on teaching and learning.

Time Limit for Certificate Completion: 2 years

Campus Location: Online

Full-Time/Part-Time Status: The graduate certificate is completed on a part-time basis as part of a cohort. The Summer cohort enrolls in one course in each of the summer sessions (Summer I and Summer II). The Fall/Spring cohort takes one course in Fall and the other in Spring.

Admission Requirements and Deadlines

Application Deadline:
Applicants submit the Non-Matriculated Student Registration form to register for the Fall/Spring cohort or the Summer I/Summer II cohort.

For more information about the graduate certificate program, contact Johanna Inman at jinman@temple.edu or 215-204-9270.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree is required. A minimum UGPA of 3.0 is expected. International applicants should also be prepared to submit an official document that validates completion and conferral of a degree, diploma, and/or certificate.

Standardized Test Scores:
Applicants whose native language is not English are expected to meet the following minimum scores for a TOEFL, IELTS, or PTE Academic exam:

- TOEFL: 79 iBT or 550 PBT
- IELTS: 6.5
- PTE Academic: 53

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned are expected to be provided.

Certificate Requirements

Number of Didactic Credits Required to Complete the Certificate: 6

Required Courses:

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPSY 8985</td>
<td>Teaching in Higher Education</td>
<td>3</td>
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<tr>
<td>Term Credit Hours</td>
<td>3</td>
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<tr>
<td>Spring</td>
<td>EPSY 8960</td>
<td>Seminar Series: Problems in Educational Psychology²</td>
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<tr>
<td>Term Credit Hours</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

¹ The Plan of Study grid shows the course sequence for the Fall/Spring cohort. Those in the Summer cohort enroll in EPSY 8985 in Summer I and EPSY 8960 in Summer II.
The course topic is "Innovation, Technology, and Teaching in Higher Education."

Contacts
Certificate Program Web Address:
https://teaching.temple.edu/teaching-certificates/teaching-higher-education-certificate-teachers-and-professionals

Department Information:
Dept. of Teaching and Learning
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

Department Contacts:
Admissions:
Office of Enrollment Management
educate@temple.edu
215-204-0999

Center for the Advancement of Teaching
cat@temple.edu
215-204-8761

Registration:
Ruth Gardner
rgard@temple.edu
215-204-4358

Graduate Certificate: Training and Organizational Development

COLLEGE OF EDUCATION (http://education.temple.edu)


About the Certificate

The graduate certificate in Training and Organizational Development is intended for adult educators and administrators, trainers, consultants, program and instructional developers, and facilitators. The certificate program is a training ground for individuals wishing to enter careers in these settings and an opportunity for mid-career professionals to upgrade their skills. It consists of four courses focusing on adult training, team development, and organizational change in such diverse settings as educational, community-based, and governmental organizations, associations, and the workplace.

Time Limit for Certificate Completion: 2 years

Campus Location: Main, with classes offered evenings and on weekends to fit the schedules of working professionals

Full-Time/Part-Time Status: The graduate certificate can be completed on a part-time basis.

Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits of coursework before applying to the graduate certificate program.

Admission Requirements and Deadlines

Application Deadline:
Applications are accepted for the Fall and Spring terms and are reviewed on a rolling basis.

APPLY ONLINE to this certificate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: Outline your interest in seeking a graduate certificate with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores:
Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 79 iBT or 550 PBT
IELTS: 6.5
PTE Academic: 53

Resume: Current resume required.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

Certificate Requirements

Number of Didactic Credits Required to Complete the Certificate: 12

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>AOD 5401</td>
<td>System Dynamics</td>
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<tr>
<td>AOD 5403</td>
<td>Facilitating Adult Learning</td>
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</table>

Electives

Select two courses from the following: 6

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>AOD 5522</td>
<td>Interpersonal Skills Training</td>
</tr>
<tr>
<td>AOD 5527</td>
<td>Training Design and Delivery</td>
</tr>
<tr>
<td>AOD 5532</td>
<td>Leadership and Management</td>
</tr>
</tbody>
</table>
AOD 5535 Organizational Assessment, Design and Strategy

Total Credit Hours 12

Students who choose to matriculate into the M.Ed. program in Adult and Organizational Development may transfer up to 12 credits from the Training and Organizational Development certificate upon acceptance into the M.Ed. program. Completion of a certificate program does not guarantee admission into the master's program. Students considering matriculating into a master's program are encouraged to apply as early as possible.

Contacts

Certificate Program Web Address:

Department Information:
Dept. of Policy, Organizational and Leadership Studies
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
Admissions:
Office of Enrollment Management
educate@temple.edu
215-204-0999

Graduate Certificate: Urban Education

COLLEGE OF EDUCATION (http://education.temple.edu)

Learn more about the graduate certificate in Urban Education (https://www.temple.edu/academics/degree-programs/urban-education-certificate-graduate-ed-urbe-grad).

About the Certificate

The graduate certificate in Urban Education helps students develop the skills and knowledge necessary to engage in collaborative education-focused work with diverse groups of people in urban settings. Students develop a broad understanding of urban schools and communities, with a particular emphasis on the social, economic, political, and historic factors that shape urban schooling. They also learn to create connections between theory and practice and to move beyond stories of urban school “failure” to analysis of successful policies and approaches.

Students in the Urban Education certificate program seek to provide services in the areas of community development, education, health, youth, and advocacy. The program attracts individuals from a wide variety of backgrounds, including educators, parents, community leaders, and activists. Through the certificate, students gain knowledge and skills in:

- the history of urban education;
- race, class, and schools;
- education policy;
- current trends in school reform; and
- theory, practice, and program development related to creating and sustaining partnerships between schools, agencies, and communities.

Time Limit for Certificate Completion: 2 years

Campus Location: Main

Full-Time/Part-Time Status: The graduate certificate can be completed on a part-time basis.

Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits of coursework before applying to the graduate certificate program.

Admission Requirements and Deadlines

Application Deadline: Applications are accepted for the Fall, Spring, and Summer terms and are reviewed on a rolling basis.

APPLY ONLINE to this certificate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained to provide insight regarding the applicant’s academic competence. References from college/university faculty are recommended.

Bachelor’s Degree in Discipline/Related Discipline: A bachelor’s degree is required. A minimum UGPA of 3.0 is expected.

International applicants should also submit an official document that validates completion and conferral of a degree, diploma, and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to the World Education Services (WES) for evaluation.

Statement of Goals: Outline your interest in seeking a graduate certificate with a specific focus on the career to which you aspire, your interests, and your academic and job-related experiences that are relevant to the program.

Standardized Test Scores:
Applicants whose native language is not English must provide scores from a TOEFL, IELTS, or PTE Academic exam. Scores must meet the following minimums:

TOEFL: 79 iBT or 550 PBT
IELTS: 6.5
PTE Academic: 53

Resume: Current resume required.

Other Requirement: Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.
Certificate Requirements

Number of Didactic Credits Required to Complete the Certificate: 12

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>URBE 5401</td>
<td>Policy and Practice in Urban Education</td>
<td>3</td>
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<tr>
<td>URBE 5501</td>
<td>Urban Schools</td>
<td>3</td>
</tr>
<tr>
<td>URBE 5516</td>
<td>School-Community Partnerships in Urban Settings</td>
<td>3</td>
</tr>
<tr>
<td>URBE 5611</td>
<td>Reforming City Schools</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours 12

Contacts

Certificate Program Web Address:
https://www.temple.edu/academics/degree-programs/urban-education-certificate-graduate-ed-urbe-grad

Department Information:
Dept. of Policy, Organizational and Leadership Studies
College of Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
educate@temple.edu
215-204-0999

Submission Address for Application Materials:
http://apply.temple.edu/coe

Department Contacts:
Admissions:
Office of Enrollment Management
educate@temple.edu
215-204-0999
College of Engineering

Temple University’s College of Engineering is committed to its students with an emphasis on education that is hands-on and personal. Classes are small and taught by experienced and dedicated faculty. Fostering an environment for the creation of knowledge, the college encourages basic and cross-disciplinary applied research by its faculty and students. Great importance is attached to scholarship, practice, and service aimed at improving the quality of life and the economic viability of our society. These objectives are pursued in a learning environment that celebrates ethnic and gender diversity, respects experience, and encourages problem solving through teamwork.

As part of a research institution, the College of Engineering offers cutting-edge programs that are accredited by ABET. The college began as the Evening Technical School in 1936 to accommodate an expanded technical course offering. In 1969, the Board of Trustees approved the formation of the College of Engineering Technology, which was authorized to grant Bachelor of Science degrees in various engineering technology disciplines. In 1986, the college offered the Master of Science in Engineering, its first graduate program.

The mission of the College of Engineering is to provide students with a high-quality, innovative, and globally competitive learning experience in engineering, engineering technology, and the applied sciences. Engineering graduates are educated professionals with the technical, problem-solving, and communication skills required to succeed in the workplace and society. The college has partnerships with some of the area’s leading engineering employers. Our graduates are hired by such companies as Boeing, Lockheed Martin, Metrologic, NASA, PennDot, Pennoni Construction, PGW, Turner Construction, Verizon, and many more.

Programs

Degree Programs

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• Bioengineering, Ph.D. (p. 493)
• Civil Engineering, M.S.C.E. (p. 496)
• Civil Engineering, Ph.D. (p. 499)
• Computer and Systems Security, P.S.M. (p. 503)
• Electrical Engineering, M.S.E.E. (p. 504)
• Electrical Engineering, Ph.D. (p. 507)
• Engineering Management, M.S. (p. 511)
• Engineering Technology Management, M.E.T.M. (p. 513)
• Environmental Engineering, M.S.Env.E. (p. 514)
• Environmental Engineering, Ph.D. (p. 517)
• Mechanical Engineering, M.S.M.E. (p. 521)
• Mechanical Engineering, Ph.D. (p. 524)

Certificates

• Computer and Systems Security

• Engineering Management

• Stormwater Management

Graduate Faculty

Bechara E. Abboud, Associate Professor, Department of Civil and Environmental Engineering, College of Engineering; Ph.D., Drexel University.

Fauzia Ahmad, Associate Professor, Department of Electrical and Computer Engineering, College of Engineering; Ph.D., University of Pennsylvania.

Li Bai, Professor, Department of Electrical and Computer Engineering, College of Engineering; Ph.D., Drexel University.

George Baran, Professor Emeritus, Department of Mechanical Engineering, College of Engineering; Ph.D., Drexel University.

Evangelia Bellas, Assistant Professor, Department of Bioengineering, College of Engineering; Ph.D., Tufts University.

Saroj K. Biswas, Professor, Department of Electrical and Computer Engineering, College of Engineering; Ph.D., University of Ottawa.

Robert M. Brooks, Associate Professor, Department of Civil and Environmental Engineering, College of Engineering; Ph.D., University of California Los Angeles.

Richard S. Cohen, Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., Princeton University.

Philip Dames, Assistant Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., University of Pennsylvania.

Kourosh Darvish, Associate Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., University of Virginia.

Zdenka J. Delalic, Associate Professor, Department of Electrical and Computer Engineering, College of Engineering; Ph.D., University of California Los Angeles.

Dmitry A. Dikin, Associate Professor (Research), Department of Mechanical Engineering, College of Engineering; Ph.D., National Academy of Sciences of Ukraine, Institute for Low Temperature Physics and Engineering.

Oleksandr Dilyan, Assistant Professor (Teaching/Instructional), Department of Mechanical Engineering, College of Engineering; Ph.D., Donetsk National Technical University.

Liang Du, Assistant Professor, Department of Electrical and Computer Engineering, College of Engineering; Ph.D., Georgia Institute of Technology.

Ahmed Faheem, Assistant Professor, Department of Civil and Environmental Engineering, College of Engineering; Ph.D., University of Wisconsin.
Anthony Ferrar, Assistant Professor (Teaching/Instructional), Department of Mechanical Engineering, College of Engineering; Ph.D., Virginia Tech.

Bojana Gligorićević, Assistant Professor, Department of Bioengineering, College of Engineering; Ph.D., Georgetown University.

Yah-el Har-el, Assistant Professor (Teaching/Instructional), Department of Bioengineering, College of Engineering; Ph.D., Johns Hopkins University.

John J. Helferty, Associate Professor, Department of Electrical and Computer Engineering, College of Engineering; Ph.D., Drexel University.

Parsaoran Hutapea, Associate Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., North Carolina State University.

Daniel A. Jacobs, Assistant Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., Stanford University.

Mohammad F. Kiani, Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., Louisiana Tech University.

Albert Kim, Assistant Professor, Department of Electrical and Computer Engineering, College of Engineering; Ph.D., Purdue University.

Sanghun Kim, Assistant Professor (Teaching/Instructional), Department of Civil and Environmental Engineering, College of Engineering; Ph.D., Syracuse University.

Peter Leikes, Professor, Department of Bioengineering, College of Engineering; Ph.D., RWTH Aachen University.

Michel Lemay, Professor, Department of Bioengineering, College of Engineering; Ph.D., Case Western Reserve University.

Haijun Liu, Assistant Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., University of Maryland College Park.

Xiaonan Lu, Associate Professor, Department of Electrical and Computer Engineering, College of Engineering; Ph.D., University of Maryland College Park.

Erica R. McKenzie, Assistant Professor, Department of Civil and Environmental Engineering, College of Engineering; Ph.D., University of California Davis.

William C. Miller, Associate Professor Emeritus, Department of Civil and Environmental Engineering, College of Engineering; Ph.D., University of Pennsylvania.

Iyad Obeid, Associate Professor, Department of Electrical and Computer Engineering, College of Engineering; Ph.D., Duke University.

Chetan A. Patil, Assistant Professor (Research), Department of Bioengineering, College of Engineering; Ph.D., Vanderbilt University.

Vallorie J. Perdidier, Associate Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., Lehigh University.

Joseph Picone, Professor, Department of Electrical and Computer Engineering, College of Engineering; Ph.D., Illinois Institute of Technology.

Shriram Pillapakkam, Associate Professor (Teaching/Instructional), Department of Mechanical Engineering, College of Engineering; Ph.D., New Jersey Institute of Technology.

Nancy Pleshko, Professor, Department of Bioengineering, College of Engineering; Ph.D., Rutgers University.

Fei Ren, Assistant Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., Michigan State University.

Avner Ronen, Assistant Professor (Teaching/Instructional), Department of Civil and Environmental Engineering, College of Engineering; Ph.D., Technion - Israel Institute of Technology.

Robert J. Ryan, Associate Professor (Teaching/Instructional), Department of Civil and Environmental Engineering, College of Engineering; Ph.D., Drexel University.

Keyanoush Sadeghipour, Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., University of Manchester Institute of Science and Technology.

Elham Sahraei, Associate Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., George Washington University.

Dennis A. Silage, Professor, Department of Electrical and Computer Engineering, College of Engineering; Ph.D., University of Pennsylvania.

Damoon Soudabkhsh, Associate Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., George Washington University.

Andrew Spence, Associate Professor, Department of Bioengineering, College of Engineering; Ph.D., Cornell University.

Won Hyuk Suh, Assistant Professor, Department of Bioengineering, College of Engineering; Ph.D., University of Illinois at Urbana-Champaign.

Rominder Suri, Professor, Department of Civil and Environmental Engineering, College of Engineering; Ph.D., Michigan Technological University.

Rouzbeh Tehrani, Assistant Professor (Teaching/Instructional), Department of Civil and Environmental Engineering, College of Engineering; Ph.D., Temple University.

Philip D. Udo-Inyang, Associate Professor, Department of Civil and Environmental Engineering, College of Engineering; Ph.D., University of Missouri-Columbia.

Felix F. Udoeyo, Assistant Professor (Teaching/Instructional), Department of Civil and Environmental Engineering, College of Engineering; Ph.D., Abubakar Tafawa Balewa University.

Karin Wang, Associate Professor, Department of Bioengineering, College of Engineering; Ph.D., Cornell University.

Chang-Hee Won, Associate Professor, Department of Electrical and Computer Engineering, College of Engineering; Ph.D., University of Notre Dame.

Jie Yin, Assistant Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., Columbia University.
Bioengineering, M.S.Bioe.

COLLEGE OF ENGINEERING (http://engineering.temple.edu)

Learn more about the Master of Science in Bioengineering (https://www.temple.edu/academics/degree-programs/bioengineering-ms-en-bioe-msbe).

About the Program

The M.S.Bioe. program offers students graduate-level interdisciplinary education and research opportunities in bioengineering and engineering applications in related healthcare fields. The program offers concentrations in Bioelectronics, Biomaterials, and Biomechanics. Graduates of the program are prepared for careers in industry or may choose to pursue a program of study leading to the Ph.D. degree. The program offers research opportunities in collaboration with faculty in the College of Science and Technology and the School of Medicine.

Time Limit for Degree Completion: 5 years

Campus Location: Main. Students may also take a significant number of required and elective courses at the Health Sciences Center campus.

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: The program encourages interdisciplinary research with other branches of engineering as well as with various departments of the College of Science and Technology and the School of Medicine.

Areas of Specialization: For each of the three areas of specialization, research includes:

- Bioelectronics — sensor development and image analysis.
- Biomaterials — wear of ultra-high molecular weight polyethylene, polymer chemistry, and interfacial chemistry.
- Biomechanics — computer-aided design of composite biomaterials, mechanical properties of orthopedic implant materials, design of orthopedic implants, and modeling of biomaterial behavior.

For the M.S.Bioe. program, students also choose between three tracks:

1. The Thesis Track is intended for students pursuing advanced research and includes 24 credits of didactic coursework, 3 credits of Project (BIOE 9995), and 3 credits of Thesis (BIOE 9996).
2. The Project Track introduces students to applied research and includes 27 credits of didactic coursework and 3 credits of Project (BIOE 9995).
3. The Coursework Track provides students with an advanced engineering background for their future in the engineering profession through 30 credits of didactic coursework.

In the first term, the student and the BIO Graduate Program Director establish a graduate Plan of Study that outlines all required courses and the sequence for the student to follow. This form is used to track the student’s progress as the various benchmarks in the program are completed. Once established, any revisions to the Plan of Study require approval in advance. However, if considering whether to change one’s track, the student should note that:

- “Thesis” credits (BIOE 9996) can only be applied toward the Thesis M.S.Bioe. Track and cannot be applied to either the Project or Coursework Tracks.
- “Project” credits (BIOE 9995) can be applied toward the Thesis and Project M.S.Bioe. Tracks but cannot be used for the Coursework Track.

Job Prospects: Graduates with the M.S.Bioe. degree are employed in a variety of biomedical industries ranging from device manufacturers to design engineering. Other possibilities include careers in government, either in regulatory agencies or with the U.S. Patent and Trademark Office. Students who complete the M.S.Bioe. degree with a thesis are prepared to enter a doctoral program.

Non-Matriculated Student Policy: Up to 9 credits of graduate Engineering coursework may be taken at Temple University on a non-matriculated basis and subsequently applied to the M.S.Bioe. degree upon admission. If the applicant’s undergraduate GPA was less than 3.0, a GPA of 3.25 or better is required on this non-matriculated graduate coursework to receive an admissions exception. Consequently, the Bioengineering Graduate Program Director may encourage those with an undergraduate GPA less than 3.0 to take their first three graduate courses prior to making formal application to the M.S.Bioe. program. (See the relevant Graduate School policies on special admission procedures for non-matriculated students: 02.23.11.03 (http://bulletin.temple.edu/graduate/graduate-policies) and 02.24.19 (http://bulletin.temple.edu/graduate/policies).)

Financing Opportunities: Three forms of financial aid are offered to graduate students:

1. Teaching Assistantship (TA): TA awards are made solely by the Department and require the awardee to work 20 hours per week in support of the Department’s undergraduate programs. The TA is compensated with a 9-month stipend, a basic health-insurance plan, and 9 credits per term of tuition remission.
2. Research Assistantship (RA): Individual Bioengineering faculty confer RA awards, using their research funds, upon students who appear well-qualified to carry out the research. Typically, this faculty member becomes the RA’s Thesis advisor. The RA normally works up to 20 hours per week and is compensated with a stipend, basic health insurance, and tuition remission.
3. Fellowships: These highly competitive University-wide grants are typically awarded only to Ph.D.-program applicants. See the Engineering, Ph.D. (http://bulletin.temple.edu/graduate/scd/engineering/engineering-phd) program description for details.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1; August 1 international

Applications are processed on a continual basis. Late applications may be considered for admission. Ordinarily, the applicant is informed of an admissions decision within 4 to 6 weeks of receipt of all supporting application documents.

Applicants who plan to matriculate full-time are automatically considered for financial aid awards so no separate application for financial aid is
required. To ensure financial aid consideration for the intended term of study, however, applicants should submit a complete application by January 15 (Fall) and August 1 (Spring).

Both admissions and financial aid award decisions originate in the Bioengineering Department. Applicants are encouraged to contact the Bioengineering Graduate Program Director for advice and consultation in the application process.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from college or research faculty who are familiar with the applicant's competency. If the applicant has an established career in engineering, one of the letters should be provided by the applicant's immediate supervisor. If the applicant has been out of school long enough that relevant academic reference letters appear impractical, s/he should contact the Bioengineering Graduate Program Director to obtain a waiver of this admission requirement.

Coursework Required for Admission Consideration: Students not adequately prepared for advanced courses may be required to take a number of prerequisites. The Bioengineering Department identifies the needed coursework on a case-by-case basis.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree in Bioengineering or a related discipline is the preferred prerequisite degree. However, students who have earned a bachelor's degree in a related field are encouraged to apply, with the understanding that remedial preparatory courses may be a pre-condition of admission to the M.S.Bioe. program.

University regulations stipulate that the applicant must have earned a 3.0 grade-point average on a 4.0 scale in her/his undergraduate studies, but admission exceptions are made for a variety of circumstances. (See Graduate School Policy 02.23.11.03 (http://bulletin.temple.edu/graduate/graduate-policies).) The Bioengineering Graduate Program Director helps the applicant navigate the admission possibilities, including the "Non-Matriculated Student Policy" option.

Statement of Goals: Describe your relevant technical experiences and career goals in one to two pages.

Standardized Test Scores:
GRE: Required. Scores must be no more than 5 years in advance of the application date. (See Graduate School Policy 02.23.12. (http://bulletin.temple.edu/graduate/graduate-policies)) Applicants who request a waiver of the GRE should consult the Bioengineering Graduate Program Director concerning the mechanics and consequences of obtaining an exception.

TOEFL: 79 iBT or 550 PBT minimum. (See Graduate School Policy 02.23.13.01 (http://bulletin.temple.edu/graduate/graduate-policies).)

Resume: Current resume required.

Transfer Credit: Graduate credits taken at an accredited institution prior to matriculation may be transferred into the M.S.Bioe. program. In order to transfer, the courses must be equivalent to courses offered at Temple in the student's area of study and research, and the grades must be "B" or better. The maximum number of credits a student may transfer is 6. (See Graduate School Policy 02.24.21 (http://bulletin.temple.edu/graduate/graduate-policies).)

Test Waivers: Applicants with two or more years of employment in an engineering profession performing engineering design and analysis may request a waiver of the GRE. Consult with the Bioengineering Graduate Program Director concerning the mechanics and consequences of obtaining an exception.

Program Requirements
General Program Requirements:
Required of Credits Required Beyond the Baccalaureate: 30

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Courses</td>
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<tr>
<td>BIOE 5600</td>
<td>Bioengineering Graduate Seminar</td>
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<tr>
<td>ENGR 5011</td>
<td>Engineering Mathematics I</td>
<td>3</td>
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<td>Specialty Courses</td>
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<td></td>
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<tr>
<td>Select three from the following:</td>
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<tr>
<td>BIOE 5719</td>
<td>Introduction to Bioengineering</td>
<td>3</td>
</tr>
<tr>
<td>BIOE 5721</td>
<td>Cell Biology for Engineers</td>
<td>3</td>
</tr>
<tr>
<td>BIOE 5737</td>
<td>Systems Physiology for Engineers</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 5312</td>
<td>Biostatistics</td>
<td>3</td>
</tr>
<tr>
<td>Electives 2</td>
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<tr>
<td>BIOE 9995</td>
<td>BioEngineering Project Research</td>
<td>3</td>
</tr>
<tr>
<td>BIOE 9996</td>
<td>BioEngineering Thesis Research</td>
<td>3</td>
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</tbody>
</table>

Total Credit Hours: 30

1 BIOE 5600 Bioengineering Graduate Seminar is required to be taken each academic term while completing the degree.

2 Coursework may include up to, but no more than, 3 credits of ENGR 9182 Independent Study I or 3 credits of BIOE 9991 Directed Research. Furthermore, students who wish to take graduate coursework outside the College of Engineering in one of Temple University's other schools/colleges need to obtain the appropriate written approvals on their Plan of Study form.

Project Track

<table>
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<td>Bioengineering Graduate Seminar</td>
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<td>Electives 2</td>
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<tr>
<td>BIOE 9995</td>
<td>BioEngineering Project Research</td>
<td>3</td>
</tr>
<tr>
<td>BIOE 9996</td>
<td>BioEngineering Thesis Research</td>
<td>3</td>
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</tbody>
</table>

Total Credit Hours: 15

Non-Didactic Course
BioEngineering Project Research

1 BIOE 5600 Bioengineering Graduate Seminar is required to be taken each academic term while completing the degree.
2 Coursework may include up to, but no more than, 3 credits of ENGR 9182 Independent Study I or 3 credits of BIOE 9991 Directed Research. Furthermore, students who wish to take graduate coursework outside the College of Engineering in one of Temple University's other schools/colleges need to obtain the appropriate written approvals on their Plan of Study form.

Coursework Track

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<th>Credit</th>
<th>Hours</th>
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<tbody>
<tr>
<td>BIOE 5600</td>
<td>Bioengineering Graduate Seminar</td>
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<td>0</td>
</tr>
<tr>
<td>ENGR 5011</td>
<td>Engineering Mathematics I</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Specialty Courses

Select three from the following:

- BIOE 5719 Introduction to Bioengineering
- BIOE 5721 Cell Biology for Engineers
- BIOE 5737 Systems Physiology for Engineers
- BIOL 5312 Biostatistics

Electives

18

Total Credit Hours

30

1 BIOE 5600 Bioengineering Graduate Seminar is required to be taken each academic term while completing the degree.
2 Coursework may include up to, but no more than, 3 credits of ENGR 9182 Independent Study I or 3 credits of BIOE 9991 Directed Research. Furthermore, students who wish to take graduate coursework outside the College of Engineering in one of Temple University's other schools/colleges need to obtain the appropriate written approvals on their Plan of Study form.

Culminating Events:

**Thesis Track:**
The culminating events in the Thesis Track are typically undertaken during the last two successive terms of study. Successful completion requires the following:

- **Thesis Proposal — BIOE 9995 BioEngineering Project Research (3 credits)**
  Under the guidance of the advisor, the student conducts independent research on an applied engineering topic of current interest and registers for BIOE 9995. This work includes the research and preliminary results that form the basis of an extended study that the student plans to carry on in BIOE 9996 BioEngineering Thesis Research. Furthermore, students who wish to take graduate coursework outside the College of Engineering in one of Temple University's other schools/colleges need to obtain the appropriate written approvals on their Plan of Study form.

The student should register for BIOE 9996 in the term that s/he plans to defend the thesis. The thesis document should be prepared in a format compliant with University standards. (See Graduate School Policy 02.26.12.02 (http://bulletin.temple.edu/graduate/graduate-policies.) Two weeks prior to the thesis defense, the student provides the committee with a copy of the completed thesis and posts an announcement of the defense, which is to take place during a regular academic term (i.e., not scheduled during study days, final exams, or the breaks between terms). If the student is to graduate in the same term as the thesis defense is held, then the defense should take place at least 30 days prior to the end of the term.

The thesis defense is an open College seminar in which the student presents the concepts and results of her/his research. Immediately following the defense, the thesis committee convenes to closely examine the student's research and decide to accept the thesis as provided, accept the thesis with revisions, or not accept the thesis. If the thesis is accepted, a letter grade for BIOE 9996 is assigned. If the thesis is accepted with revisions, then the student must submit the revised thesis within 30 days and with the approval of the Thesis Committee. If the thesis is not accepted, but the committee decides to not fail the student, an "R" grade is assigned to BIOE 9996. In the following term, the student registers for one credit of ENGR 9991 Directed Research until s/he is again prepared to attempt the defense. The defense procedures described above are then carried out again in the term that the student is prepared to defend the thesis.

**Project Track:**
The culminating event for the Project Track is BIOE 9995 BioEngineering Project Research. This entails a one-term research activity done under the supervision of a full-time faculty advisor on an applied engineering topic of interest. Near the end of the term, the student prepares a report of her/his findings and presents the study in an open departmental seminar. Both the seminar and the written report are used to determine the student's grade for BIOE 9995. The grade is determined jointly by the advisor and another designated grader selected by the Graduate Program Director.

**Coursework Track:**
No culminating event is warranted for the Coursework Track.

Contacts

Program Web Address:

https://www.temple.edu/academics/degree-programs/bioengineering-ms-en-bioe-msbe

Department Information:

Bioengineering Department
ATTN: BIO Programs, College of Engineering
1947 N. 12th Street
Philadelphia, PA 19122-6077

The student must pass the Thesis Proposal before registering for BIOE 9996. If the student fails Thesis Proposal, s/he may either re-register for BIOE 9995 (1 credit) in the next regular term and repeat the entire proposal process or consider switching to the Project or Coursework Track. **NOTE: A second failure of Thesis Proposal results in automatic dismissal from the University. If switching to another track, the Plan of Study form requires updating and appropriate approvals.**
Bioengineering research is highly interdisciplinary: portion of the Ph.D. degree program through classes offered after 4:30 p.m.

Campus Location:
Areas of Specialization:
Pharmacy.

7 years
Time Limit for Degree Completion: 7 years

Bioengineering, Ph.D.

COLLEGE OF ENGINEERING (http://engineering.temple.edu)


About the Program

The Ph.D. in Bioengineering addresses the needs of an aging population that is likely to require more medical care and to take advantage of the advances in and benefits of biomedical engineering. Employment of biomedical engineers is projected to grow 27 percent from 2012 to 2022, much faster than the average for all occupations. The Bioengineering Ph.D. program is designed to educate and train doctoral-level bioengineers to work in academic, medical, or industrial settings.

Full-Time/Part-Time Status: Students are able to complete the didactic portion of the Ph.D. degree program through classes offered after 4:30 p.m.

Interdisciplinary Study: Bioengineering research is highly interdisciplinary and draws on collaboration with members of the faculty and students within all departments of the College of Engineering; other departments on Main campus, including Biology, Chemistry, and Kinesiology; and other schools and colleges at Temple University, such as the Kornberg School of Dentistry, School of Medicine, and School of Pharmacy.

Areas of Specialization: While the Bioengineering Ph.D. is inherently interdisciplinary, the student is admitted to the program and then conducts doctoral research within an area of specialization. The areas of specialization are similar to those at the master's level:

- Biomaterials
- Imaging and Optical Spectroscopy
- Injury Biomechanics
- Neuroengineering
- Neuromechanics of Locomotion
- Regenerative Tissue Engineering
- Stem and Cancer Cell Engineering
- Targeted Drug Delivery

In the first term, the student and the BIO Graduate Program Director jointly initiate a Plan of Study. This form lists all required courses and the program requirement sequence for the student to follow. The Plan of Study is used to track the student's progress, with an annual annotation and update as the student completes various benchmarks in the Ph.D. program.

Job Prospects: The program is primarily intended for individuals who wish to pursue careers in industry, government, and academia in a highly creative environment. The program is dedicated to producing engineers who will contribute to advancements in biotechnology.

Non-Matriculated Student Policy: Up to 9 credits of graduate Engineering coursework may be taken at Temple University on a non-matriculated basis and subsequently applied to the Ph.D. degree upon admission. If the applicant's undergraduate GPA was less than 3.0, a GPA of 3.25 or better is required on this non-matriculated graduate coursework to receive an admissions exception. Consequently, the Bioengineering Graduate Program Director may encourage those with an undergraduate GPA less than 3.0 to take their first three graduate courses prior to making formal application to the Ph.D. program. (See the relevant Graduate School policies on special admission procedures for non-matriculated students: 02.23.11.03 (http://bulletin.temple.edu/graduate/graduate-policies) and 02.24.19 (http://bulletin.temple.edu/graduate/graduate-policies).)

Financing Opportunities: Applicants for full-time study in the Bioengineering Ph.D. program are automatically considered for financial aid. Three forms of financial aid are awarded to Ph.D. students on a competitive basis:

1. Teaching Assistantship (TA): TA awards are made solely by the Department and require the awardee to work 20 hours per week in support of the Department's undergraduate programs. The TA is compensated with a 9-month stipend, a basic health-insurance plan, and 9 credits per term of tuition remission.

2. Research Assistantship (RA): Individual faculty confer RA awards, using their research funds, upon students who appear well-qualified to carry out the research. Typically, this faculty member becomes the RA's doctoral advisor. The RA normally works up to 20 hours per week and is compensated with a stipend, basic health insurance, and tuition remission.

3. Fellowships: Fellowships are awarded by the University in a competitive process that is open to all Ph.D. applicants. The Bioengineering Graduate Program Director nominates exceptional Ph.D. applicants for a University Fellowship. Fellows receive 9 to 12 months of stipend, depending on the award; basic health insurance; and 12 credits of tuition remission each Fall and Spring term. Fellows of the University have no work obligations with respect to either the Department, the College, or the University.

Because financial aid is awarded on a competitive basis, applicants are urged to complete the application as early as possible.
Admission Requirements and Deadlines

Application Deadline:

Fall: March 1  
Spring: November 1; August 1 international

Applications are processed on a continual basis. Ordinarily, the applicant is informed of an admissions decision within 4 to 6 weeks of receipt of all supporting application documents.

Both admissions and financial aid award decisions originate in the Bioengineering Department within the College of Engineering. Applicants who plan to matriculate full-time are automatically considered for financial aid awards so no separate application for financial aid is required. To ensure financial aid consideration for the intended term of study, however, applicants should submit a complete application by January 15 (Fall) and August 1 (Spring).

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from college or research faculty who are familiar with the applicant's competency. If the applicant has an established career in engineering, one of the letters should be provided by the applicant's immediate supervisor. If the applicant has been out of school long enough that relevant academic reference letters appear impractical, s/he should contact the Bioengineering Graduate Program Director to obtain a waiver of this admission requirement.

Coursework Required for Admission Consideration: Students not adequately prepared for advanced courses may be required to take a number of prerequisites. The Bioengineering Department identifies the needed coursework on a case-by-case basis.

Master's Degree in Discipline/Related Discipline: A master's degree is not required, but preferred.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree is required.

University regulations stipulate that the applicant must have earned a 3.0 grade-point average on a 4.0 scale in her/his undergraduate studies, but admission exceptions are made for a variety of circumstances. (See Graduate School Policy 02.23.11.03 (http://bulletin.temple.edu/graduate/graduate-policies/).) The Bioengineering Graduate Program Director helps the applicant navigate the admission possibilities and assists in the assessment of her/his overall educational qualifications with respect to the departmental requirements for the Ph.D. program.

Statement of Goals: Describe your relevant technical experiences, career goals, and specific research interests in one to two pages.

Standardized Test Scores:

GRE: Required. Scores must be no more than 5 years in advance of the application date. (See Graduate School Policy 02.23.12 (http://bulletin.temple.edu/graduate/graduate-policies/).) Applicants who require a waiver of the GRE should consult the Bioengineering Graduate Program Director concerning the mechanics and consequences of obtaining an exception.

TOEFL: 79 iBT or 550 PBT minimum. (See Graduate School Policy 02.23.13.01 (http://bulletin.temple.edu/graduate/graduate-policies/).)

Resume: Current resume required.

Advanced Standing: Both transfer credit for courses taken at another institution while matriculated at Temple and/or advanced standing credit for courses taken within the 5-year period prior to matriculating at Temple may be applied toward the Ph.D.-level didactic coursework requirement. Written approval is required from the student’s doctoral advisor, the College’s Associate Dean for Graduate Study, and the Graduate School. (See Graduate School Policy 02.24.21 (http://bulletin.temple.edu/graduate/graduate-policies/).) Up to six credits of advanced standing for courses taken within the 5-year period prior to matriculating at Temple may be used to satisfy the master's-level didactic coursework requirement. Approval of the Bioengineering Graduate Program Director is required. The courses must be equivalent to courses offered at Temple in the student’s area of study and research, and the grades must be “B” or better.

Program Requirements

General Program Requirements:

Minimum Number of Credits Required Beyond the Bachelor’s: 60, including 45 credits of master's-level and Ph.D.-level didactic coursework and 15 credits associated with Ph.D. examinations and dissertation research

Minimum Number of Credits Required Beyond the Master’s: 30, including 15 credits of Ph.D.-level didactic coursework and 15 credits associated with Ph.D. examinations and dissertation research

Required Courses:

Post-Baccalaureate (for students WITHOUT a master’s degree in Bioengineering)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOE 5600</td>
<td>Bioengineering Graduate Seminar</td>
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<tr>
<td>ENGR 5011</td>
<td>Engineering Mathematics I</td>
<td>3</td>
</tr>
<tr>
<td>BIOE 6998</td>
<td>BioEngineering Preliminary Examination Preparation (1 credit)</td>
<td>1</td>
</tr>
<tr>
<td>BIOE 6999</td>
<td>BioEngineering Pre-Dissertation Research (3 credits)</td>
<td>3</td>
</tr>
<tr>
<td>BIOE 9999</td>
<td>BioEngineering Dissertation Research (3 credits)</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours 60

1 BIOE 5600 Bioengineering Graduate Seminar is required to be taken each academic term while completing the degree.
Post-Master's (for students WITH a master's degree in Bioengineering)

<table>
<thead>
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</tr>
<tr>
<td>ENGR 5011</td>
<td>Engineering Mathematics I</td>
<td>3</td>
</tr>
</tbody>
</table>

Specialty Courses
Select three from the following:

- BIOE 5719 Introduction to Bioengineering
- BIOE 5721 Cell Biology for Engineers
- BIOE 5737 Systems Physiology for Engineers
- BIOL 5312 Biostatistics

Technical Electives

<table>
<thead>
<tr>
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<th>Credit Hours</th>
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</thead>
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<td>BIOE 9991</td>
<td>Directed Research (8 credits)</td>
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</tr>
<tr>
<td>BIOE 9994</td>
<td>BioEngineering Preliminary Examination Preparation (1 credit)</td>
<td>15</td>
</tr>
<tr>
<td>BIOE 9998</td>
<td>Bioengineering Pre-Dissertation Research (3 credits)</td>
<td></td>
</tr>
<tr>
<td>BIOE 9999</td>
<td>BioEngineering Dissertation Research (3 credits)</td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours: 30

1 BIOE 5600 Bioengineering Graduate Seminar is required to be taken each academic term while completing the degree.
2 Students who wish to take graduate coursework outside the College of Engineering in one of Temple University’s other schools/colleges need to obtain the appropriate written approvals on their Plan of Study form.
3 Expected distribution of the 15 credits associated with Ph.D. examinations and dissertation research is shown, although the actual distribution of credits can vary across courses depending on the student’s particular circumstances.

Culminating Events:

Formation of the Doctoral Advisory Committee:
Selection of a research advisor and formation of a Doctoral Advisory Committee constitute the first steps toward achieving a Ph.D. Selection of a doctoral advisor depends on the student’s level of preparation upon entering the Ph.D. program. The Doctoral Advisory Committee selects the required coursework and guides the progress of the student’s dissertation research:

- Students entering the Ph.D. program with a master's degree, i.e., those who must complete 30 credits to earn the degree, form their Doctoral Advisory Committee before the end of their second regular term of study.
- Students entering the program with a bachelor’s degree, i.e., those who must complete 60 credits to earn the Ph.D. degree, generally complete most of their coursework before forming their Doctoral Advisory Committee by the end of their fourth regular term in the program.

See Graduate School Policy 02.28.11 (http://bulletin.temple.edu/graduate/graduate-policies) for clarification on the composition of the Doctoral Advisory Committee.

Preliminary Examination:
All students generally complete their didactic coursework prior to taking the preliminary examination. (See Graduate School Policy 02.27.11 (http://bulletin.temple.edu/graduate/graduate-policies).) Students in the 30-credit cohort ordinarily take the exam in their third or fourth term. Students in the 60-credit cohort typically take the exam no later than the eighth regular term. Students should register for one credit of BIOE 9994 BioEngineering Preliminary Examination Preparation in the term when the exam will be taken.

The preliminary exam tests both the student’s core knowledge in Bioengineering and her/his capacity to synthesize and interpret research communications. The student coordinates the scheduling of the preliminary exam with the BIO Graduate Program Director. The BIO Graduate Program Director supervises the specific form, content, and frequency of the Bioengineering preliminary exam. A maximum of two opportunities to pass the preliminary exam are available to the student. In each term when the exam is attempted, the student registers for one credit of BIOE 9994. Students are dismissed upon the second failure.

Dissertation Proposal:
Within a year of passing the preliminary exam, the student must develop a written research proposal and present it in an open College seminar.

Ten business days prior to the seminar, the student must schedule the proposal and post an announcement. Immediately following the seminar, the Doctoral Advisory Committee questions the student about the details and strategy of her/his proposed research.

Approval is granted for the proposed dissertation research when the “Dissertation Proposal Transmittal for Elevation to Candidacy” form (found in TPortal under the Tools tab within “University Forms”) has been signed off by the entire Doctoral Advisory Committee. After the dissertation proposal has been accepted by the Doctoral Advisory Committee and the Graduate School has received the form, the student is considered to be a doctoral candidate. (See Graduate School Policy 02.28.12 (http://bulletin.temple.edu/graduate/graduate-policies) for more information.)

Research Credits:
Students carry out research throughout their studies and register for the corresponding research credits while in the Ph.D. program. However, the type of research credits that a student registers for depends on the student’s progress in the program:

- Prior to passing the preliminary exam, credit hours associated with the student’s research should be registered under BIOE 9991 Directed Research.
- After the preliminary exam is passed, but before elevation to candidacy, credit hours associated with the student’s research should be registered under BIOE 9998 Bioengineering Pre-Dissertation Research.
- After elevation to candidacy, the student’s research credits should be registered under BIOE 9999 Bioengineering Dissertation Research. Students are required to register for at least three credits of BIOE 9999 following their elevation to candidacy. (See Graduate

Students entering the Ph.D. program with a master's degree, i.e., those who must complete 30 credits to earn the degree, form their Doctoral Advisory Committee before the end of their second regular term of study.

Students entering the program with a bachelor’s degree, i.e., those who must complete 60 credits to earn the Ph.D. degree, generally complete most of their coursework before forming their Doctoral Advisory Committee by the end of their fourth regular term in the program.

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- After elevation to candidacy, the student’s research credits should be registered under BIOE 9999 Bioengineering Dissertation Research. Students are required to register for at least three credits of BIOE 9999 following their elevation to candidacy. (See Graduate
School Policy 02.28.15 (http://bulletin.temple.edu/graduate/graduate-policies.)

Publications:
Paper writing and presentation at a conference are considered integral to the student's training. Also, peer review, in part, offers an indication of the quality and novelty of the student's research. All doctoral students must publish at least two technical papers in refereed journals or refereed conferences. The papers must be based on the student's dissertation research with the student as the first author.

Dissertation:
The dissertation defense is an open University seminar in which the student presents the concepts and results of her/his research.

The student must coordinate the formation of the Dissertation Examining Committee in the term that s/he intends to defend her/his dissertation. This committee consists of the original Doctoral Advisory Committee plus one additional "external" member who is not faculty in the College of Engineering. If the external examiner is not a member of Temple University's Graduate Faculty, the person must be approved by the Graduate School at least four weeks prior to the dissertation defense.

The dissertation defense is to take place during a regular academic term (i.e., not scheduled during study days, final exams, or the breaks between terms). If the student is to graduate in the same term as the dissertation defense is held, then the defense should take place at least 30 days prior to the end of the term to allow for document revisions.

Three weeks prior to the defense, the members of the committee elect a Chair of the Dissertation Examining Committee. The Chair cannot be the student's doctoral advisor. The Associate Dean of Research and Graduate Studies must approve the selection. The Chair is identified to the Graduate School in the student's official request for permission to schedule the defense. (See Graduate School Policy 02.28.15 (http://bulletin.temple.edu/graduate/graduate-policies.) The Chair's role includes coordination of the proceedings of the defense and completion of all relevant College and Graduate School forms concerning the defense.

The dissertation document should be prepared in a format compliant with University standards. (See Graduate School Policy 02.28.18 (http://bulletin.temple.edu/graduate/graduate-policies.) A copy of the completed dissertation must be provided to the committee at least three weeks before the date of the dissertation defense. Note that any Graduate Faculty may request a copy of the dissertation in advance of the defense and may participate in the defense.

A minimum of two weeks prior to the defense, a public announcement of the defense must be posted. Prior to posting, this announcement must be approved in writing by the Graduate School. (See Graduate School Policy 02.28.16 (http://bulletin.temple.edu/graduate/graduate-policies.)

Immediately following the presentation, the Dissertation Examining Committee closely examines the student's performance and her/his research. External attendees may participate in this closed portion of the defense with the permission of the Dissertation Examining Committee Chair. However, only members of the Dissertation Examining Committee may actually vote on the decision to accept the dissertation as prepared, accept the dissertation with revisions, or not accept the dissertation. If the dissertation is accepted with revisions, a revised copy of the dissertation must be submitted and approved by the Committee within 30 days of the original defense date.

Contacts
Program Web Address:
https://www.temple.edu/academics/degree-programs/bioengineering-phd-en-bioe-phd

Department Information:
College of Engineering
ATTN: BIO Programs
1947 N. 12th Street
Philadelphia, PA 19122-6077
marshad@temple.edu
215-204-7800

Submission Address for Application Materials:
https://apply.temple.edu/Engineering/

Department Contacts:
Admissions:
Cheryl Sharp
cheryl.sharp@temple.edu
215-204-7800

Graduate Program Director, BIO:
Yah-el Har-el, Ph.D.
yahel@temple.edu
215-204-3426

Chairperson, BIO:
Peter Lelkes, Ph.D.
pilelkes@temple.edu
215-204-3307

Civil Engineering, M.S.C.E.

COLLEGE OF ENGINEERING (http://engineering.temple.edu)

Learn more about the Master of Science in Civil Engineering (https://www.temple.edu/academics/degree-programs/civil-engineering-ms-en-cee-msce).

About the Program

The M.S.C.E. program is designed to provide students with the opportunity to develop a greater technical competency in the general area of Civil and Environmental Engineering. Students are motivated to grow intellectually through the continued search for and use of knowledge, and are provided with the catalyst to become active, articulate, and socially aware individuals. Graduates of the program are key contributors to the civil engineering and environmental engineering professions.

Time Limit for Degree Completion: 5 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: The program encourages interdisciplinary research with other branches of engineering as well as with various
Areas of Specialization: For each of the two areas of specialization, research includes:

- Civil Engineering Systems — three major branches of civil engineering: construction engineering, structural engineering, and transportation engineering.
- Environmental Engineering — the fundamentals and applications of water resources engineering, pollution in natural systems (water and air), and engineered treatment and remediation systems.

For the M.S.C.E. program, students also choose between three tracks:

1. The Thesis Track is intended for students pursuing advanced research and includes 24 credits of didactic coursework, 3 credits of Project (CEE 9995), and 3 credits of Thesis (CEE 9996).
2. The Project Track introduces students to applied research and includes 27 credits of didactic coursework and 3 credits of Project (CEE 9995).
3. The Coursework Track provides students with an advanced engineering background for their future in the engineering profession through 30 credits of didactic coursework.

In the first term, the student and the CEE Graduate Program Director establish a graduate Plan of Study that outlines all required courses and the sequence for the student to follow. This form is used to track the student’s progress as the various benchmarks in the program are completed. Once established, any revisions to the Plan of Study require approval in advance. However, if considering whether to change one’s track, the student should note that:

- "Thesis" credits (CEE 9996) can only be applied toward the Thesis M.S.C.E. Track and cannot be applied to either the Project or Coursework Tracks.
- "Project" credits (CEE 9995) can be applied toward the Thesis and Project M.S.C.E. Tracks but cannot be used for the Coursework Track.

Job Prospects: Graduates with the M.S.C.E. are employed by various engineering companies as well as government agencies in design, analysis, and applications. Typical examples are water treatment facilities and regulatory agencies engaged in environmental regulation and pollution control; companies involved in construction project management; and those involved in structural design and analysis of buildings, bridges, and other structures. Students who complete an M.S.C.E. with a thesis are prepared to enter a doctoral program.

Non-Matriculated Student Policy: Up to 9 credits of graduate coursework may be taken at Temple University on a non-matriculated basis and subsequently applied to the M.S.C.E. degree upon admission. If the applicant's undergraduate GPA was less than 3.0, a GPA of 3.25 or better is required on this non-matriculated graduate coursework to receive an admissions exception. Consequently, the Civil and Environmental Engineering (CEE) Graduate Program Director may encourage those with an undergraduate GPA less than 3.0 to take their first three graduate courses prior to making formal application to the M.S.C.E. program. (See the relevant Graduate School policies on special admission procedures for non-matriculated students: 02.23.11.03 (http://bulletin.temple.edu/graduate/graduate-policies) and 02.24.19 (http://bulletin.temple.edu/graduate/graduate-policies).)

Financing Opportunities: Three forms of financial aid are offered to graduate students:

1. Teaching Assistantship (TA): TA awards are made solely by the Department and require the awardee to work 20 hours per week in support of the Department's undergraduate programs. The TA is compensated with a 9-month stipend, a basic health-insurance plan, and 9 credits per term of tuition remission.
2. Research Assistantship (RA): Individual CEE faculty confer RA awards, using their research funds, upon students who appear well-qualified to carry out the research. Typically, this faculty member becomes the RA's Thesis advisor. The RA normally works up to 20 hours per week and is compensated with a stipend, basic health insurance, and tuition remission.
3. Fellowships: These highly competitive University-wide grants are typically awarded only to Ph.D.-program applicants. See the Engineering Ph.D. (http://bulletin.temple.edu/graduate/scd/engineering/engineering-phd) program description for details.

Admission Requirements and Deadlines

Application Deadline:

**Fall:** March 1

**Spring:** November 1; August 1 international

Applications are processed on a continual basis. Late applications may be considered for admission. Ordinarily, the applicant is informed of an admissions decision within 3 to 6 weeks of receipt of all supporting application documents.

Applicants who plan to matriculate full-time are automatically considered for financial aid awards so no separate application for financial aid is required. To ensure financial aid consideration for the intended term of study, however, applicants should submit a complete application by January 15 (Fall) and August 1 (Spring).

Both admissions and financial aid award decisions originate in the Department of Civil and Environmental Engineering (CEE). Applicants are encouraged to contact the CEE Graduate Program Director for advice and consultation in the application process.

APPLY ONLINE to this graduate program.

Letters of Reference:

**Number Required:** 3

**From Whom:** Letters of recommendation should be obtained from college or research faculty who are familiar with the applicant's competency. If the applicant has an established career in engineering, one of the letters should be provided by the applicant's immediate supervisor. If the applicant has been out of school long enough that relevant academic reference letters appear impractical, s/he should contact the CEE Graduate Program Director to obtain a waiver of this admission requirement.

Coursework Required for Admission Consideration: Students not adequately prepared for advanced courses may be required to take a number of prerequisites. The CEE Department identifies the needed coursework on a case-by-case basis.
Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree in Civil Engineering is the preferred prerequisite degree. However, students who have earned a bachelor's degree in a related field are encouraged to apply, with the understanding that remedial preparatory courses may be a pre-condition of admission to the M.S.C.E. program.

University regulations stipulate that the applicant must have earned a 3.0 grade-point average on a 4.0 scale in her/his undergraduate studies, but admission exceptions are made for a variety of circumstances. (See Graduate School Policy 02.23.11.03 (http://bulletin.temple.edu/graduate/graduate-policies).) The CEE Graduate Program Director helps the applicant navigate the admission possibilities, including the "Non-Matriculated Student Policy" option.

Statement of Goals: Describe your relevant technical experiences and career goals in one to two pages.

Standardized Test Scores:
GRE: Required. Scores must be no more than 5 years in advance of the application date. (See Graduate School Policy 02.23.12. (http://bulletin.temple.edu/graduate/graduate-policies)) Applicants who require a waiver of the GRE should consult the CEE Graduate Program Director concerning the mechanics and consequences of obtaining an exception.

TOEFL: 79 iBT or 550 PBT minimum. (See Graduate School Policy 02.23.13.01 (http://bulletin.temple.edu/graduate/graduate-policies).)

Resume: Current resume required.

Transfer Credit: Graduate credits taken at an accredited institution prior to matriculation may be transferred into the M.S.C.E. program. In order to transfer, the courses must be equivalent to courses offered at Temple in the student's area of study and research, and the grades must be "B" or better. The maximum number of credits a student may transfer is 6. (See Graduate School Policy 02.24.21 (http://bulletin.temple.edu/graduate/graduate-policies).)

Test Waivers: Applicants with two or more years of employment in an engineering profession performing engineering design and analysis may request a waiver of the GRE. Consult with the CEE Graduate Program Director concerning the mechanics and consequences of obtaining an exception.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

Thesis Track

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
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<td><strong>Core Courses</strong></td>
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<td>CEE 5211</td>
<td>Bridge Design</td>
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<tr>
<td>CEE 5212</td>
<td>Transportation Engineering Materials</td>
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</tr>
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<td>CEE 5241</td>
<td>Pavement Management and Traffic Systems Management</td>
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</tr>
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<td>CEE 5421</td>
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<td><strong>Non-Didactic Courses</strong></td>
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<td>CEE 9995</td>
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<tr>
<td>CEE 9996</td>
<td>Thesis</td>
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</tbody>
</table>

Total Credit Hours: 30

1 Coursework may include up to, but no more than, 3 credits of ENGR 9182 Independent Study I or 3 credits of CEE 9991 Directed Research. Furthermore, students who wish to take graduate coursework outside the College of Engineering in one of Temple University’s other schools/colleges need to obtain the appropriate written approvals on their Plan of Study form.

Project Track

<table>
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<td>Project</td>
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Coursework Track

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<td><strong>Electives</strong></td>
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</table>

Total Credit Hours: 30
requires the following:

during the last two successive terms of study. Successful completion

The culminating events in the Thesis Track are typically undertaken

during the last two successive terms of study. Successful completion

Culminating Events:

Thesis Track:
The culminating events in the Thesis Track are typically undertaken

during the last two successive terms of study. Successful completion

• Thesis Proposal — CEE 9995 Project (3 credits)
Under the guidance of the advisor, the student conducts independent
research on an applied engineering topic of current interest and
registers for CEE 9995. This work includes the research and
preliminary results that form the basis of an extended study that the
student plans to carry on in CEE 9996 Thesis in the following term.
The student submits a research report as her/his Thesis Proposal to
a committee consisting of three or more faculty members, including
the faculty advisor, and presents her/his proposal in an open College-
wide seminar, which is scheduled and posted at least 10 business
days in advance of the presentation date. Immediately following
the presentation, the student’s advisory committee questions the
student about the details and strategy of the proposed research.
The committee then accepts, accepts with revisions, or rejects the
proposal. The student must pass the Thesis Proposal before registering for
CEE 9996. If the student fails Thesis Proposal, s/he may either re-
register for CEE 9995 (1 credit) in the next regular term and repeat
the entire proposal process or consider switching to the Project or
Coursework Track. NOTE: A second failure of Thesis Proposal
results in automatic dismissal from the University. If switching
to another track, the Plan of Study form requires updating and
appropriate approvals.

• Thesis Defense — CEE 9996 Thesis (3 credits)
The student must register for CEE 9996 in the term that s/he plans
to defend the thesis. The thesis document should be prepared in a
format compliant with University standards. (See Graduate School
Policy 02.26.12.02 (http://bulletin.temple.edu/graduate/graduate-
policies).) Two weeks prior to the thesis defense, the student
provides the committee with a copy of the completed thesis and posts
an announcement of the defense, which is to take place during a
regular academic term (i.e., not scheduled during study days, final
exams, or the breaks between terms). If the student is to graduate in
the same term as the thesis defense is held, then the defense should
take place at least 30 days prior to the end of the term.
The thesis defense is an open College seminar in which the student
presents the concepts and results of her/his research. Immediately
following the defense, the thesis committee convenes to closely
examine the student’s research and decide to accept the thesis as
provided, accept the thesis with revisions, or not accept the thesis.
If the thesis is accepted, a letter grade for CEE 9996 is assigned. If
the thesis is accepted with revisions, then the student must submit
the revised thesis within 30 days and with the approval of the Thesis
Committee. If the thesis is not accepted, but the committee decides
to not fail the student, an “R” grade is assigned to CEE 9996. In the
following term, the student registers for one credit of ENGR 9991
Directed Research until s/he is again prepared to attempt the
defense. The defense procedures described above are then carried
out again in the term that the student is prepared to defend the thesis.

Project Track:
The culminating event for the Project Track is CEE 9995 Project. This
entails a one-term research activity done under the supervision of a full-
time faculty advisor on an applied engineering topic of interest. Near the
end of the term, the student prepares a report of her/his findings and
presents the study in an open departmental seminar. Both the seminar
and the written report are used to determine the student’s grade for
CEE 9995. The grade is determined jointly by the advisor and another
designated grader selected by the Graduate Program Director.

Coursework Track:
No culminating event is warranted for the Coursework Track.

Contacts

Program Web Address:
https://www.temple.edu/academics/degree-programs/civil-engineering-
ms-en-cee-msce

Department Information:

Dept. of Civil and Environmental Engineering
ATTN: CEE Programs, College of Engineering
1947 N. 12th Street
Philadelphia, PA 19122-6077
marshad@temple.edu
215-204-7800

Submission Address for Application
Materials:
https://apply.temple.edu/Engineering/

Department Contacts:

Admissions:
Cheryl Sharp
cheryl.sharp@temple.edu
215-204-7800

Graduate Program Director, CEE:
Rouzbeh Tehrani, Ph.D.
r.tehrani@temple.edu
215-204-2590

Chairperson, CEE:
Rominder Suri, Ph.D.
r.suri@temple.edu
215-204-2378

Civil Engineering, Ph.D.

COLLEGE OF ENGINEERING (http://engineering.temple.edu)

Learn more about the Doctor of Philosophy in Civil Engineering (https://
www.temple.edu/academics/degree-programs/civil-engineering-phd-en-
cee-phd).
About the Program

The Ph.D. in Civil Engineering is designed to produce graduates who have:

• built a solid core knowledge base in science, technology, civil engineering, and mathematics;
• gained the ability to adapt to interdisciplinary research projects and employ emerging technology;
• learned how to plan, develop, and conduct a research project on their own as future principal investigators; and
• mastered professional oral and written communication skills.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: Students are able to complete the didactic portion of the Ph.D. degree program through classes offered after 4:30 p.m.

Interdisciplinary Study: Research in Civil Engineering is interdisciplinary and requires collaboration of members of the faculty and students in the Department of Electrical and Computer Engineering; Department of Mechanical Engineering; Mathematics Department; and various science departments at Temple University.

Areas of Specialization: Faculty in the Department of Civil and Environmental Engineering are actively engaged in research in the following areas of Civil Engineering:

• Construction Management
• Geophysical Imaging and Site Characterization
• Instrumentation and Sensor Technology
• Pavement Design and Rehabilitation
• Scour Countermeasures for Bridges
• Transportation Engineering

In the first term, the student and the CEE Graduate Program Director jointly initiate a Plan of Study. This form lists all required courses and the program requirement sequence for the student to follow. The Plan of Study is used to track the student’s progress, with an annual annotation and update as the student completes various benchmarks in the Ph.D. program.

Job Prospects: The program is primarily intended for individuals who wish to pursue careers in industry, government, and academia in a highly creative environment. The program is dedicated to producing engineers who will contribute to advancements in civil engineering.

Non-Matriculated Student Policy: Up to 9 credits of graduate Engineering coursework may be taken at Temple University on a non-matriculated basis and subsequently applied to the Ph.D. degree upon admission. If the applicant's undergraduate GPA was less than 3.0, a GPA of 3.25 or better is required on this non-matriculated graduate coursework to receive an admissions exception. Consequently, the Civil Engineering Graduate Program Director may encourage those with an undergraduate GPA less than 3.0 to take their first three graduate courses prior to making formal application to the Ph.D. program. (See the relevant Graduate School policies on special admission procedures for non-matriculated students: 02.23.11.03 [http://bulletin.temple.edu/graduate/graduate-policies] and 02.24.19 [http://bulletin.temple.edu/graduate/graduate-policies]).

Financing Opportunities: Applicants for full-time study in the Civil Engineering Ph.D. program are automatically considered for financial aid. Three forms of financial aid are awarded to Ph.D. students on a competitive basis:

1. Teaching Assistantship (TA): TA awards are made solely by the Department and require the awardee to work 20 hours per week in support of the Department’s undergraduate programs. The TA is compensated with a 9-month stipend, a basic health-insurance plan, and 9 credits per term of tuition remission.

2. Research Assistantship (RA): Individual faculty confer RA awards, using their research funds, upon students who appear well-qualified to carry out the research. Typically, this faculty member becomes the RA’s doctoral advisor. The RA normally works up to 20 hours per week and is compensated with a stipend, basic health insurance, and tuition remission.

3. Fellowships: Fellowships are awarded by the University in a competitive process that is open to all Ph.D. applicants. The Civil Engineering Graduate Program Director nominates exceptional Ph.D. applicants for a University Fellowship. Fellows receive 9 to 12 months of stipend, depending on the award; basic health insurance; and 12 credits of tuition remission each Fall and Spring term. Fellows of the University have no work obligations with respect to either the Department, the College, or the University.

Because financial aid is awarded on a competitive basis, applicants are urged to complete the application as early as possible.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1; August 1 international

Applications are processed on a continual basis. Ordinarily, the applicant is informed of an admissions decision within 4 to 6 weeks of receipt of all supporting application documents.

Both admissions and financial aid award decisions originate in the Department of Civil and Environmental Engineering within the College of Engineering. Applicants who plan to matriculate full-time are automatically considered for financial aid awards so no separate application for financial aid is required. To ensure financial aid consideration for the intended term of study, however, applicants should submit a complete application by January 15 (Fall) and August 1 (Spring).

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from college or research faculty who are familiar with the applicant’s competency. If the applicant has an established career in engineering, one of the letters should be provided by the applicant’s immediate supervisor. If the applicant has been out of school long enough that relevant academic reference letters appear impractical, s/he should contact the
Civil Engineering Graduate Program Director to obtain a waiver of this admission requirement.

Coursework Required for Admission Consideration: Students not adequately prepared for advanced courses may be required to take a number of prerequisites. The Department of Civil and Environmental Engineering identifies the needed coursework on a case-by-case basis.

Master’s Degree in Discipline/Related Discipline: A master's degree is not required, but preferred.

Bachelor’s Degree in Discipline/Related Discipline: A bachelor's degree is required.

University regulations stipulate that the applicant must have earned a 3.0 grade-point average on a 4.0 scale in her/his undergraduate studies, but admission exceptions are made for a variety of circumstances. (See Graduate School Policy 02.23.11.03 (http://bulletin.temple.edu/graduate/graduate-policies).) The Civil Engineering Graduate Program Director helps the applicant navigate the admission possibilities and assists in the assessment of her/his overall educational qualifications with respect to the departmental requirements for the Ph.D. program.

Statement of Goals: Describe your relevant technical experiences, career goals, and specific research interests in one to two pages, ensuring that you have clearly identified your area of interest within the field of civil and environmental engineering.

Standardized Test Scores:
GRE: Required. Scores must be no more than 5 years in advance of the application date. (See Graduate School Policy 02.23.12 (http://bulletin.temple.edu/graduate/graduate-policies).) Applicants who require a waiver of the GRE should consult the Civil Engineering Graduate Program Director concerning the mechanics and consequences of obtaining an exception.

TOEFL: 79 iBT or 550 PBT minimum. (See Graduate School Policy 02.23.13.01 (http://bulletin.temple.edu/graduate/graduate-policies).)

Resume: Current resume required.

Advanced Standing: Both transfer credit for courses taken at another institution while matriculated at Temple and/or advanced standing credit for courses taken within the 5-year period prior to matriculating at Temple may be applied toward the Ph.D.-level didactic coursework requirement. Written approval is required from the student's doctoral advisor, the College's Associate Dean for Graduate Study, and the Graduate School. (See Graduate School Policy 02.24.21 (http://bulletin.temple.edu/graduate/graduate-policies).) Up to six credits of advanced standing for courses taken within the 5-year period prior to matriculating at Temple may be used to satisfy the master’s-level didactic coursework requirement. Approval of the Civil Engineering Graduate Program Director is required. The courses must be equivalent to courses offered at Temple in the student's area of study and research, and the grades must be "B" or better.

Program Requirements

General Program Requirements:

Minimum Number of Credits Required Beyond the Bachelor's: 60, including 45 credits of graduate-level didactic coursework and 15 research credits, including preliminary Ph.D. examination and dissertation research

Minimum Number of Credits Required Beyond the Master's: 30, including 15 credits of graduate-level didactic coursework and 15 research credits, including preliminary Ph.D. examination and dissertation research

Required Courses:

Post-Baccalaureate (for students WITHOUT a master's degree in Civil Engineering)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tr>
<td>Didactic Courses 1</td>
<td>CEE 9999 Pre-Dissertation Research (3 credits)</td>
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<tr>
<td>Research Courses 2</td>
<td>CEE 9994 Preliminary Examination Preparation (1 credit)</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>CEE 9996 Pre-Dissertation Research (3 credits)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CEE 9999 Dissertation Research (3 credits)</td>
<td></td>
</tr>
<tr>
<td>Total Credit Hours</td>
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<td>60</td>
</tr>
</tbody>
</table>

1 Didactic coursework is typically selected by the student's Doctoral Advisory Committee. It may include up to, but no more than, 3 credits of CEE 9182 Independent Study I, 3 credits of CEE 9282 Independent Study II, or 3 credits of CEE 9991 Directed Research. Furthermore, students who wish to take graduate coursework outside the College of Engineering in one of Temple University's other schools/colleges need to obtain the appropriate written approvals on their Plan of Study form.

2 Expected distribution of the 15 credits associated with Ph.D. examinations and dissertation research is shown, although the actual distribution of credits can vary across courses depending on the student's particular circumstances.

Post-Master's (for students WITH a master's degree in Civil Engineering)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Didactic Courses 1</td>
<td>CEE 9999 Pre-Dissertation Research (8 credits)</td>
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</tr>
<tr>
<td>Research Courses 2</td>
<td>CEE 9994 Preliminary Examination Preparation (1 credit)</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>CEE 9996 Pre-Dissertation Research (3 credits)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CEE 9999 Dissertation Research (3 credits)</td>
<td></td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td></td>
<td>30</td>
</tr>
</tbody>
</table>

1 Didactic coursework is typically selected by the student’s Doctoral Advisory Committee. It may include up to, but no more than, 3 credits of CEE 9182 Independent Study I, 3 credits of CEE 9282 Independent Study II, or 3 credits of CEE 9991 Directed Research. Furthermore, students who wish to take graduate coursework outside the College of Engineering in one of Temple University’s other schools/colleges need to obtain the appropriate written approvals on their Plan of Study form.

2 Expected distribution of the 15 credits associated with Ph.D. examinations and dissertation research is shown, although the actual distribution of credits can vary across courses depending on the student’s particular circumstances.

Culminating Events:

Formation of the Doctoral Advisory Committee:
Selection of a research advisor and formation of a Doctoral Advisory Committee constitute the first steps toward achieving a Ph.D. Selection of a doctoral advisor depends on the student's level of preparation upon entering the Ph.D. program. The Doctoral Advisory Committee selects the required coursework and guides the progress of the student's dissertation research:

- Students entering the Ph.D. program with a master's degree, i.e., those who must complete 30 credits to earn the degree, form their Doctoral Advisory Committee before the end of their second regular term of study.
- Students entering the program with a bachelor's degree, i.e., those who must complete 60 credits to earn the Ph.D. degree, generally complete most of their coursework before forming their Doctoral Advisory Committee by the end of their fourth regular term in the program.

See Graduate School Policy 02.28.11 (http://bulletin.temple.edu/graduate/graduate-policies) for clarification on the composition of the Doctoral Advisory Committee.

Preliminary Examination:

All students generally complete their didactic coursework prior to taking the preliminary examination. (See Graduate School Policy 02.27.11 (http://bulletin.temple.edu/graduate/graduate-policies).) Students in the 30-credit cohort ordinarily take the exam in their third or fourth term. Students in the 60-credit cohort typically take the exam no later than the eighth regular term. Students should register for one credit of CEE 9994 Preliminary Examination Preparation in the term when the exam will be taken.

The preliminary exam tests both the student's core knowledge in Civil Engineering and her/his capacity to synthesize and interpret research communications. The student coordinates the scheduling of the preliminary exam with the CEE Graduate Program Director. The CEE Graduate Program Director supervises the specific form, content, and frequency of the Civil Engineering preliminary exam. A maximum of two opportunities to pass the preliminary exam are available to the student. In each term when the exam is attempted, the student registers for one credit of CEE 9994. Students are dismissed upon the second failure.

Dissertation Proposal:

Within a year of passing the preliminary exam, the student must develop a written research proposal and present it in an open College seminar. Ten business days prior to the presentation seminar, the student must schedule the proposal and post an announcement. Immediately following the seminar, the Doctoral Advisory Committee questions the student about the details and strategy of her/his proposed research.

Approval is granted for the proposed dissertation research when the "Dissertation Proposal Transmittal for Elevation to Candidacy" form (found in TUportal under the Tools tab within "University Forms") has been signed off by the entire Doctoral Advisory Committee. After the dissertation proposal has been accepted by the Doctoral Advisory Committee and the Graduate School has received the form, the student is considered to be a doctoral candidate. (See Graduate School Policy 02.28.12 (http://bulletin.temple.edu/graduate/graduate-policies) for more information.)

Research Credits:

Students carry out research throughout their studies and register for the corresponding research credits while in the Ph.D. program. However, the type of research credits that a student registers for depends on the student's progress in the program:

- Prior to passing the preliminary exam, credit hours associated with the student's research should be registered under CEE 9991 Directed Research.
- After the preliminary exam is passed, but before elevation to candidacy, credit hours associated with the student's research should be registered under CEE 9998 Pre-Dissertation Research.
- After elevation to candidacy, the student's research credits should be registered under CEE 9999 Dissertation Research. Students are required to register for at least three credits of CEE 9999 following their elevation to candidacy. (See Graduate School Policy 02.28.15 (http://bulletin.temple.edu/graduate/graduate-policies).)

Publications:

Paper writing and presentation at a conference are considered integral to the student's training. Also, peer review, in part, offers an indication of the quality and novelty of the student's research. All doctoral students must publish at least two technical papers in refereed journals or refereed conferences. The papers must be based on the student's dissertation research with the student as the first author.

Dissertation:

The dissertation defense is an open University seminar in which the student presents the concepts and results of her/his research.

The student must coordinate the formation of the Dissertation Examining Committee in the term that s/he intends to defend her/his dissertation. This committee consists of the original Doctoral Advisory Committee plus one additional "external" member who is not faculty in the College of Engineering. If the external examiner is not a member of Temple University's Graduate Faculty, the person must be approved by the Graduate School at least four weeks prior to the dissertation defense.

The dissertation defense is to take place during a regular academic term (i.e., not scheduled during study days, final exams, or the breaks between terms). If the student is to graduate in the same term as the dissertation defense is held, then the defense should take place at least 30 days prior to the end of the term to allow for document revisions.

Three weeks prior to the defense, the members of the committee elect a Chair of the Dissertation Examining Committee. The Chair cannot be the student's doctoral advisor. The Associate Dean of Research and Graduate Studies must approve the selection. The Chair is identified to the Graduate School in the student's official request for permission to schedule the defense. (See Graduate School Policy 02.28.15 (http://bulletin.temple.edu/graduate/graduate-policies).) The Chair's role includes coordination of the proceedings of the defense and completion of all relevant College and Graduate School forms concerning the defense.

The dissertation document should be prepared in a format compliant with University standards. (See Graduate School Policy 02.28.18 (http://bulletin.temple.edu/graduate/graduate-policies).) A copy of the completed dissertation must be provided to the committee at least three weeks before the date of the dissertation defense. Note that any Graduate Faculty may request a copy of the dissertation in advance of the defense and may participate in the defense.

A minimum of two weeks prior to the defense, a public announcement of the defense must be posted. Prior to posting, this announcement must be
approved in writing by the Graduate School. (See Graduate School Policy 02.28.16 [http://bulletin.temple.edu/graduate/graduate-policies].)

Immediately following the presentation, the Dissertation Examining Committee closely examines the student’s performance and her/his research. External attendees may participate in this closed portion of the defense with the permission of the Dissertation Examining Committee Chair. However, only members of the Dissertation Examining Committee may actually vote on the decision to accept the dissertation as prepared, accept the dissertation with revisions, or not accept the dissertation. If the dissertation is accepted with revisions, a revised copy of the dissertation must be submitted and approved by the Committee within 30 days of the original defense date.

Contacts

Program Web Address:
https://www.temple.edu/academics/degree-programs/civil-engineering-phd-en-cee-phd

Department Information:
College of Engineering
ATTN: CEE Programs
1947 N. 12th Street
Philadelphia, PA 19122-6077
marshad@temple.edu
215-204-7800

Submission Address for Application Materials:
https://apply.temple.edu/Engineering/

Department Contacts:
Admissions:
Cheryl Sharp
cheryl.sharp@temple.edu
215-204-7800

Graduate Program Director, CEE:
Rouzbeh Tehrani, Ph.D.
r.tehrani@temple.edu
215-204-2590

Chairperson, CEE:
Rominder Suri, Ph.D.
r.suri@temple.edu
215-204-2378

Computer and Systems Security, P.S.M.

COLLEGE OF ENGINEERING [http://engineering.temple.edu]


About the Program

The Professional Science Master's degree in Computer and Systems Security (PSM–C&S Security) is offered by the College of Engineering’s Department of Electrical and Computer Engineering. The program focuses on the technology layer within the cyberphysical security paradigm and on the tools and methodologies needed to ensure trustworthiness and asset protection of hardware and network systems. The program is designed to teach students how to meet industry needs and be prepared for the workplace, yet allows students to customize the program to fit their individual needs.

Time Limit for Degree Completion: 5 years

Campus Location: Main

Full-Time/Part-Time Status: Students can complete the degree program on a full- or part-time basis. All courses are taught in the evening, and the degree can be completed in 18 months.

Interdisciplinary Study: Designed as an interdisciplinary program, students in the program take courses from both the College of Engineering and the College of Science and Technology.

Areas of Specialization: The program may be tailored to the student’s career path in the areas of:
- Embedded security safeguards
- Engineered resilient systems
- Hardware component and device design-for-security
- Quality and risk management of hardware security projects
- Reverse engineering for counterintelligence

Job Prospects: Many students in the program already work in the industry. Emphasizing an experience-oriented approach, the PSM–C&S Security program prepares professionals for industry certification, including CISSP® and (ISC)²®, allowing graduates of the program to move their careers in cyberphysical security to a higher level.

Non-Matriculated Student Policy: Up to 9 credits of graduate Engineering coursework may be taken at Temple University on a non-matriculated basis and subsequently applied to the PSM–C&S Security degree upon admission. If the applicant's undergraduate GPA was less than 3.0, a GPA of 3.25 or better is required on this non-matriculated graduate coursework to receive an admissions exception.

Financing Opportunities: Financial aid in the form of assistantships or fellowships is not offered to students undertaking the PSM–C&S Security degree. For financial aid information, contact the Office of Student Financial Services at sfs@temple.edu or 215-204-2244.

Admission Requirements and Deadlines

Application Deadline:
Fall: March 1

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendations should be obtained from college or research faculty and/or workplace supervisors. References
should be provided by those who can attest to the applicant’s ability to excel in the PSM–C&S Security program.

**Coursework Required for Admission Consideration:** Applicants should have a technical background in engineering, science, or technology.

**Bachelor’s Degree in Discipline/Related Discipline:** A bachelor’s degree in engineering, science, or technology is strongly preferred. Those without this academic background are required to consult with the PSM–C&S Security Program Director to derive a viable academic plan.

**Statement of Goals:** Describe your relevant technical experiences and career goals in one to two pages.

**Standardized Test Scores:**
- GRE: Required. Scores must be no more than 5 years in advance of the application date. (See Graduate School Policy 02.23.12.) Applicants who require a waiver of the GRE should consult with the PSM–C&S Security Program Director concerning the mechanics and consequences of obtaining an exception.
- TOEFL: 79 iBT or 550 PBT minimum. (See Graduate School Policy 02.23.13.01.)

**Resume:** Current resume required.

**Test Waivers:** Applicants with extensive relevant employment in the cyberphysical security industry may request a waiver of the GRE. Consult with the PSM–C&S Security Program Director concerning the mechanics and consequences of obtaining an exception.

**Program Requirements**

**General Program Requirements:**

*Number of Credits Required Beyond the Baccalaureate: 30*

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<td><strong>Core Courses</strong></td>
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<tr>
<td>ECE 5516</td>
<td>Introduction to Communication Networks</td>
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<tr>
<td>ECE 5526</td>
<td>Engineering Principles of Computer Intrusion and Detection</td>
<td>3</td>
</tr>
<tr>
<td>ECE 5528</td>
<td>Introduction to Cryptography and Information Security</td>
<td>3</td>
</tr>
<tr>
<td>ECE 5538</td>
<td>Hardware and Industrial Control System Security</td>
<td>3</td>
</tr>
<tr>
<td>ECE 5548</td>
<td>Secure Computer Memory Architecture and Intrusion Prevention Methodologies</td>
<td>3</td>
</tr>
<tr>
<td>CIS course in ethics, law, governance, and regulatory compliance of hardware systems</td>
<td>3</td>
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</tr>
<tr>
<td></td>
<td><strong>Electives</strong></td>
<td>12</td>
</tr>
<tr>
<td></td>
<td><strong>Total Credit Hours</strong></td>
<td>30</td>
</tr>
</tbody>
</table>

1 Students select electives related to their chosen career path in the areas of embedded security safeguards, engineered resilient systems, hardware component and device design-for-security, quality and risk management of hardware security projects, reverse engineering for counterintelligence, and/or preparation for industry certification.

All students in the PSM–C&S Security program complete a capstone project to round out the program with practical work experience.

**Contacts**

**Program Web Address:**

**Department Information:**
Dept. of Electrical and Computer Engineering
ATTN: PSM–C&S Security Program, College of Engineering
1947 N. 12th Street
Philadelphia, PA 19122-6077
gradengr@temple.edu
215-204-7800

**Submission Address for Application Materials:**
https://apply.temple.edu/Engineering/

**Department Contacts:**
Admissions:
Cheryl Sharp
cheryl.sharp@temple.edu
215-204-7800

Program Director:
Shianling Wu
swu@temple.edu
215-204-7893

**Electrical Engineering, M.S.E.E.**

COLLEGE OF ENGINEERING

Learn more about the Master of Science in Electrical Engineering (https://www.temple.edu/academics/degree-programs/electrical-engineering-ms-en-ece-msee).

**About the Program**

The M.S.E.E. program offers students practice-oriented graduate-level education in Electrical and Computer Engineering. Concentrations include Computer Architectures and Microelectronics, Digital Signal Processing and Digital Data Communication, and Intelligent Systems and Control. Current active research projects in the department include embedded systems and system-on-chip design, intelligent interactive tutoring systems, intrusion detection, multisensor fusion, speaker identification, speech processing, and visualization and fault detection in multicasting networks. Other active areas of research include digital signal processing, heat dissipation problems in microchips, human-computer interaction, intelligent multimedia systems, robust and optimal control, and wireless data networks.

**Time Limit for Degree Completion:** 5 years

**Campus Location:** Main
Full-Time/Part-Time Status: Students complete the degree program through classes offered after 4:30 p.m. The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: The program encourages interdisciplinary research with other branches of engineering as well as with various departments in the sciences and applied mathematics. Recent collaborative work with the Department of Computer and Information Sciences includes visualization and fault detection in multicasting networks and image processing.

Areas of Specialization: For each of the three areas of specialization, research includes:

- Computer Architectures and Microelectronics — current practices of computer design and development; hardware realization and integrated circuit layout; MOS-integrated circuit design for high-speed digital computation and data communication; and software-level testing.
- Digital Signal Processing and Digital Data Communication — array signal processing; detection of faults in communication networks; detection of multidimensional signals in the presence of noise; filtering and modulation; intrusion detection, visualization, and security of multicast networks; multisensor data fusion; performance evaluation of local area and wireless networks, broadband networks, and protocols; speaker identification; and voice signal processing.
- Intelligent Systems and Control — intelligent tutoring systems, interactive multimedia, neuro-fuzzy control, and robust and optimal control.

For the M.S.E.E. program, students also choose between three tracks:

1. The Thesis Track is intended for students pursuing advanced research and includes 24 credits of didactic coursework, 3 credits of Project (ECE 9995), and 3 credits of Thesis (ECE 9996).
2. The Project Track introduces students to applied research and includes 27 credits of didactic coursework and 3 credits of Project (ECE 9995).
3. The Coursework Track provides students with an advanced engineering background for their future in the engineering profession through 30 credits of didactic coursework.

In the first term, the student and the ECE Graduate Program Director establish a graduate Plan of Study that outlines all required courses and the sequence for the student to follow. This form is used to track the student's progress as the various benchmarks in the program are completed. Once established, any revisions to the Plan of Study require approval in advance. However, if considering whether to change one's track, the student should note that:

- "Thesis" credits (ECE 9996) can only be applied toward the Thesis M.S.E.E. Track and cannot be applied to either the Project or Coursework Tracks.
- "Project" credits (ECE 9995) can be applied toward the Thesis and Project M.S.E.E. Tracks but cannot be used for the Coursework Track.

Job Prospects: Graduates with the M.S.E.E. are employed in high-tech industries and government laboratories with responsibilities for design, analysis, and applications of electrical engineering principles. Students who complete an M.S.E.E. with a thesis are prepared to enter a doctoral program.

Non-Matriculated Student Policy: Up to 9 credits of graduate Engineering coursework may be taken at Temple University on a non-matriculated basis and subsequently applied to the M.S.E.E. degree upon admission. If the applicant's undergraduate GPA was less than 3.0, a GPA of 3.25 or better is required on this non-matriculated graduate coursework to receive an admissions exception. Consequently, the Electrical and Computer Engineering (ECE) Graduate Program Director may encourage those with an undergraduate GPA less than 3.0 to take their first three graduate courses prior to making formal application to the M.S.E.E. program. (See the relevant Graduate School policies on special admission procedures for non-matriculated students: 02.23.11.03 (http://bulletin.temple.edu/graduate/graduate-policies) and 02.24.19 (http://bulletin.temple.edu/graduate/graduate-policies).)

Financing Opportunities: Three forms of financial aid are offered to graduate students:

1. Teaching Assistantship (TA): TA awards are made solely by the Department and require the awardee to work 20 hours per week in support of the Department's undergraduate programs. The TA is compensated with a 9-month stipend, a basic health-insurance plan, and 9 credits per term of tuition remission.
2. Research Assistantship (RA): Individual ECE faculty confer RA awards, using their research funds, upon students who appear well-qualified to carry out the research. Typically, this faculty member becomes the RA's Thesis advisor. The RA normally works up to 20 hours per week and is compensated with a stipend, basic health insurance, and tuition remission.
3. Fellowships: These highly competitive University-wide grants are typically awarded only to Ph.D.-program applicants. See the Engineering, Ph.D. (http://bulletin.temple.edu/graduate/schools-colleges-divisions/engineering/engineering-phd) program description for details.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1; August 1 international

Applications are processed on a continual basis. Late applications may be considered for admission. Ordinarily, the applicant is informed of an admissions decision within 4 to 6 weeks of receipt of all supporting application documents.

Applicants who plan to matriculate full-time are automatically considered for financial aid awards so no separate application for financial aid is required. To ensure financial aid consideration for the intended term of study, however, applicants should submit a complete application by January 15 (Fall) and August 1 (Spring).

Both admissions and financial aid awards decisions originate in the Department of Electrical and Computer Engineering (ECE). Applicants are encouraged to contact the ECE Graduate Program Director for advice and consultation in the application process.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from college or research faculty who are familiar with the applicant's competency. If the applicant has an established career in engineering, one of the
letters should be provided by the applicant’s immediate supervisor. If the applicant has been out of school long enough that relevant academic reference letters appear impractical, s/he should contact the ECE Graduate Program Director to obtain a waiver of this admission requirement.

Coursework Required for Admission Consideration: Students not adequately prepared for advanced courses may be required to take a number of prerequisites. The ECE Department identifies the needed coursework on a case-by-case basis.

Bachelor’s Degree in Discipline/Related Discipline: A bachelor’s degree in Electrical Engineering or Computer Engineering is the preferred prerequisite degree. However, students who have earned a bachelor’s degree in a related field are encouraged to apply, with the understanding that remedial preparatory courses may be a pre-condition of admission to the M.S.E.E. program.

University regulations stipulate that the applicant must have earned a 3.0 grade-point average on a 4.0 scale in her/his undergraduate studies, but admission exceptions are made for a variety of circumstances. (See Graduate School Policy 02.23.11.03 (http://bulletin.temple.edu/graduate/graduate-policies/).) The ECE Graduate Program Director helps the applicant navigate the admission possibilities, including the “Non-Matriculated Student Policy” option.

Statement of Goals: Describe your relevant technical experiences and career goals in one to two pages.

Standardized Test Scores:
GRE: Required. Scores must be no more than 5 years in advance of the application date. (See Graduate School Policy 02.23.12 (http://bulletin.temple.edu/graduate/graduate-policies/).) Applicants who require a waiver of the GRE should consult the ECE Graduate Program Director concerning the mechanics and consequences of obtaining an exception.

TOEFL: 79 iBT or 550 PBT minimum. (See Graduate School Policy 02.23.13.01 (http://bulletin.temple.edu/graduate/graduate-policies/).

Resume: Current resume required.

Transfer Credit: Graduate credits taken at an accredited institution prior to matriculation may be transferred into the M.S.E.E. program. In order to transfer, the courses must be equivalent to courses offered at Temple in the student’s area of study and research, and the grades must be “B” or better. The maximum number of credits a student may transfer is 6. (See Graduate School Policy 02.24.21 (http://bulletin.temple.edu/graduate/graduate-policies/).

Test Waivers: Applicants with two or more years of employment in an engineering profession performing engineering design and analysis may request a waiver of the GRE. Consult with the ECE Graduate Program Director concerning the mechanics and consequences of obtaining an exception.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

### Thesis Track

<table>
<thead>
<tr>
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Electives

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Non-Didactic Courses

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<td>ECE 9996</td>
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</table>

Total Credit Hours: 30

1 Coursework may include up to, but no more than, 3 credits of ENGR 9182 Independent Study I or 3 credits of ECE 9991 Directed Research. Furthermore, students who wish to take graduate coursework outside the College of Engineering in one of Temple University’s other schools/colleges need to obtain the appropriate written approvals on their Plan of Study form.

### Project Track

<table>
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Electives

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Non-Didactic Course

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</table>

Total Credit Hours: 30

1 Coursework may include up to, but no more than, 3 credits of ENGR 9182 Independent Study I or 3 credits of ECE 9991 Directed Research. Furthermore, students who wish to take graduate coursework outside the College of Engineering in one of Temple University’s other schools/colleges need to obtain the appropriate written approvals on their Plan of Study form.

### Coursework Track

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</tr>
<tr>
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Electives

<table>
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<th>Credit Hours</th>
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</tr>
</tbody>
</table>

Total Credit Hours: 30

1 Coursework may include up to, but no more than, 3 credits of ENGR 9182 Independent Study I or 3 credits of ECE 9991 Directed Research. Furthermore, students who wish to take graduate coursework outside the College of Engineering in one of Temple University’s other schools/colleges need to obtain the appropriate written approvals on their Plan of Study form.

Culminating Events:

Thesis Track:

- [36x750] Temple University Graduate Bulletin 2018-2019

The culminating events in the Thesis Track are typically undertaken during the last two successive terms of study. Successful completion requires the following:

- **Thesis Proposal — ECE 9995 Project (3 credits)**
  Under the guidance of the advisor, the student conducts independent research on an applied engineering topic of current interest and registers for ECE 9995. This work includes the research and preliminary results that form the basis of an extended study that the student plans to carry on in ECE 9996 Thesis in the following term. The student submits a research report as her/his Thesis Proposal to a committee consisting of three or more faculty members, including the faculty advisor, and presents her/his proposal in an open College-wide seminar, which is scheduled and posted at least 10 business days in advance of the presentation date. Immediately following the presentation, the student’s advisory committee questions the student about the details and strategy of the proposed research. The committee then accepts, accepts with revisions, or rejects the proposal. The student must pass the Thesis Proposal before registering for ECE 9996. If the student fails Thesis Proposal, s/he may either re-register for ECE 9995 (1 credit) in the next regular term and repeat the entire proposal process or consider switching to the Project or Coursework Track. NOTE: A second failure of Thesis Proposal results in automatic dismissal from the University. If switching to another track, the Plan of Study form requires updating and appropriate approvals.

- **Thesis Defense — ECE 9996 Thesis (3 credits)**
  The student should register for ECE 9996 in the term that s/he plans to defend the thesis. The thesis document should be prepared in a format compliant with University standards. (See Graduate School Policy 02.26.12.02 [http://bulletin.temple.edu/graduate/graduate-policies].) Two weeks prior to the thesis defense, the student provides the committee with a copy of the completed thesis and posts an announcement of the defense, which is to take place during a regular academic term (i.e., not scheduled during study days, final exams, or the breaks between terms). If the student is to graduate in the same term as the thesis defense is held, then the defense should take place at least 30 days prior to the end of the term. The thesis defense is an open College seminar in which the student presents the concepts and results of her/his research. Immediately following the defense, the thesis committee convenes to closely examine the student's research and decide to accept the thesis as provided, accept the thesis with revisions, or not accept the thesis. If the thesis is accepted, a letter grade for ECE 9996 is assigned. If the thesis is accepted with revisions, then the student must submit the revised thesis within 30 days and with the approval of the Thesis Committee. If the thesis is not accepted, but the committee decides to not fail the student, an “R” grade is assigned to ECE 9996. In the following term, the student registers for one credit of ENGR 9991 Directed Research until s/he is again prepared to attempt the defense. The defense procedures described above are then carried out again in the term that the student is prepared to defend the thesis.

**Coursework Track:**
No culminating event is warranted for the Coursework Track.

**Contacts**

**Program Web Address:**
https://www.temple.edu/academics/degree-programs/electrical-engineering-ms-en-ece-msee

**Department Information:**
Dept. of Electrical and Computer Engineering
ATTN: ECE Programs, College of Engineering
1947 N. 12th Street
Philadelphia, PA 19122-6077
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215-204-7800

**Submission Address for Application Materials:**
https://apply.temple.edu/Engineering/

**Department Contacts:**

**Admissions:**
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215-204-7800

**Graduate Program Director, ECE:**
Iyad Obeid, Ph.D.
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215-204-9033

**Chairperson, ECE:**
Li Bai, Ph.D.
lbai@temple.edu
215-204-6616

**Electrical Engineering, Ph.D.**

COLLEGE OF ENGINEERING (http://engineering.temple.edu)


**About the Program**

The Ph.D. in Electrical Engineering is designed to develop electrical engineers who have a clear understanding of the importance of electrical engineering. Doctoral students are prepared to identify a research area in electrical engineering and analyze the literature, develop theory, perform experimentation, and develop their own methodologically rigorous research studies. Students complete their studies with a mastery of the fundamental critical thinking and analytic skills and competencies necessary for electrical and computer engineering. Graduates are well prepared to enter the workforce in a range of engineering companies, universities, research organizations, federal agencies, and non-profit organizations.
Interdisciplinary Study: Engineering research is highly interdisciplinary and draws on collaboration with members of the faculty and students within all departments of the College of Engineering, in the Mathematics Department and departments engaged in the study of the physical sciences, and at the School of Medicine at Temple University.

Areas of Specialization: The areas of specialization within Electrical Engineering are similar to those at the master's level:

- Cyber Physical Systems
- Digital Data Communication and Network
- Digital Signal Processing and Digital Image Processing
- Microelectronics and Computer Architectures
- Signal Processing and Speech Processing
- Smart Systems and Control

In the first term, the student and the ECE Graduate Program Director jointly initiate a Plan of Study. This form lists all required courses and the program requirement sequence for the student to follow. The Plan of Study is used to track the student's progress, with an annual annotation and update as the student completes various benchmarks in the Ph.D. program.

Job Prospects: The program is primarily intended for individuals who wish to pursue careers in industry, government, and academia in a highly creative environment. The program is dedicated to producing engineers who will contribute to advancements in electrical engineering. In the past, most graduates with the Ph.D. in Electrical Engineering were employed in high-tech industries in research and development positions.

Non-Matriculated Student Policy: Up to 9 credits of graduate Engineering coursework may be taken at Temple University on a non-matriculated basis and subsequently applied to the Ph.D. degree upon admission. If the applicant's undergraduate GPA was less than 3.0, a GPA of 3.25 or better is required on this non-matriculated graduate coursework to receive an admissions exception. Consequently, the Electrical Engineering Graduate Program Director may encourage those with an undergraduate GPA less than 3.0 to take their first three graduate courses prior to making formal application to the Ph.D. program. (See the relevant Graduate School policies on special admission procedures for non-matriculated students: 02.23.11.03 (http://bulletin.temple.edu/graduate/graduate-policies) and 02.24.19 (http://bulletin.temple.edu/graduate/graduate-policies).)

Financing Opportunities: Applicants for full-time study in the Electrical Engineering Ph.D. program are automatically considered for financial aid. Three forms of financial aid are awarded to Ph.D. students on a competitive basis:

1. Teaching Assistantship (TA): TA awards are made solely by the Department and require the awardee to work 20 hours per week in support of the Department's undergraduate programs. The TA is compensated with a 9-month stipend, a basic health-insurance plan, and 9 credits per term of tuition remission.
2. Research Assistantship (RA): Individual faculty confer RA awards, using their research funds, upon students who appear well-qualified to carry out the research. Typically, this faculty member becomes the RA's doctoral advisor. The RA normally works up to 20 hours per week and is compensated with a stipend, basic health insurance, and tuition remission.
3. Fellowships: Fellowships are awarded by the University in a competitive process that is open to all Ph.D. applicants. The Electrical Engineering Graduate Program Director nominates exceptional Ph.D. applicants for a University Fellowship. Fellows receive 9 to 12 months of stipend, depending on the award; basic health insurance; and 12 credits of tuition remission each Fall and Spring term. Fellows of the University have no work obligations with respect to either the Department, the College, or the University.

Because financial aid is awarded on a competitive basis, applicants are urged to complete the application as early as possible.

Admission Requirements and Deadlines

Application Deadline:

- Fall: March 1
- Spring: November 1; August 1 international

Applications are processed on a continual basis. Ordinarily, the applicant is informed of an admissions decision within 4 to 6 weeks of receipt of all supporting application documents.

Both admissions and financial aid award decisions originate in the Department of Electrical and Computer Engineering within the College of Engineering. Applicants who plan to matriculate full-time are automatically considered for financial aid awards so no separate application for financial aid is required. To ensure financial aid consideration for the intended term of study, however, applicants should submit a complete application by January 15 (Fall) and August 1 (Spring).

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from college or research faculty who are familiar with the applicant's competency. If the applicant has an established career in engineering, one of the letters should be provided by the applicant's immediate supervisor. If the applicant has been out of school long enough that relevant academic reference letters appear impractical, s/he should contact the Electrical Engineering Graduate Program Director to obtain a waiver of this admission requirement.

Coursework Required for Admission Consideration: Students not adequately prepared for advanced courses may be required to take a number of prerequisites. The Department of Electrical and Computer Engineering identifies the needed coursework on a case-by-case basis.

Master's Degree in Discipline/Related Discipline: A master's degree is not required, but preferred.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree is required.

University regulations stipulate that the applicant must have earned a 3.0 grade-point average on a 4.0 scale in her/his undergraduate studies,
but admission exceptions are made for a variety of circumstances. (See Graduate School Policy 02.23.11.03 (http://bulletin.temple.edu/graduate/graduate-policies).) The Electrical Engineering Graduate Program Director helps the applicant navigate the admission possibilities and assists in the assessment of her/his overall educational qualifications with respect to the departmental requirements for the Ph.D. program.

Statement of Goals: Describe your relevant technical experiences, career goals, and specific research interests in one to two pages.

Standardized Test Scores:
GRE: Required. Scores must be no more than 5 years in advance of the application date. (See Graduate School Policy 02.23.12 (http://bulletin.temple.edu/graduate/graduate-policies).) Applicants who require a waiver of the GRE should consult the Electrical Engineering Graduate Program Director concerning the mechanics and consequences of obtaining an exception.

TOEFL: 79 iBT or 550 PBT minimum. (See Graduate School Policy 02.23.13.01 (http://bulletin.temple.edu/graduate/graduate-policies).)

Resume: Current resume required.

Advanced Standing: Both transfer credit for courses taken at another institution while matriculated at Temple and/or advanced standing credit for courses taken within the 5-year period prior to matriculating at Temple may be applied toward the Ph.D.-level didactic coursework requirement. Written approval is required from the student’s doctoral advisor, the College’s Associate Dean for Graduate Study, and the Graduate School. (See Graduate School Policy 02.24.21 (http://bulletin.temple.edu/graduate/graduate-policies).) Up to six credits of advanced standing for courses taken within the 5-year period prior to matriculating at Temple may be used to satisfy the master’s-level didactic coursework requirement. Approval of the Electrical Engineering Graduate Program Director is required. The courses must be equivalent to courses offered at Temple in the student's area of study and research, and the grades must be "B" or better.

Program Requirements

General Program Requirements:

Minimum Number of Credits Required Beyond the Bachelor’s: 60, including 45 credits of graduate-level didactic coursework and 15 research credits, including preliminary Ph.D. examination and dissertation research

Minimum Number of Credits Required Beyond the Master’s: 30, including 15 credits of graduate-level didactic coursework and 15 research credits, including preliminary Ph.D. examination and dissertation research

Required Courses:

Post-Baccalaureate (for students WITHOUT a master’s degree in Electrical Engineering)

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<tr>
<td>ECE 9991</td>
<td>Directed Research (8 credits)</td>
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<tr>
<td>ECE 9994</td>
<td>Preliminary Examination Preparation (1 credit)</td>
<td></td>
</tr>
<tr>
<td>ECE 9998</td>
<td>Pre-Dissertation Research (3 credits)</td>
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</table>

Post-Master’s (for students WITH a master’s degree in Electrical Engineering)

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<tr>
<td>ECE 9999</td>
<td>Dissertation Research (3 credits)</td>
<td>60</td>
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1 Didactic coursework is typically selected by the student’s Doctoral Advisory Committee. It may include up to, but no more than, 3 credits of ECE 9182 Independent Study I, 3 credits of ECE 9282 Independent Study II, or 3 credits of ECE 9991 Directed Research. Furthermore, students who wish to take graduate coursework outside the College of Engineering in one of Temple University’s other schools/colleges need to obtain the appropriate written approvals on their Plan of Study form.

2 Expected distribution of the 15 credits associated with Ph.D. examinations and dissertation research is shown, although the actual distribution of credits can vary across courses depending on the student’s particular circumstances.

Culminating Events:
Formation of the Doctoral Advisory Committee:
Selection of a research advisor and formation of a Doctoral Advisory Committee constitute the first steps toward achieving a Ph.D. Selection of a doctoral advisor depends on the student’s level of preparation upon entering the Ph.D. program. The Doctoral Advisory Committee selects the required coursework and guides the progress of the student’s dissertation research:

- Students entering the Ph.D. program with a master’s degree, i.e., those who must complete 30 credits to earn the degree, form their Doctoral Advisory Committee before the end of their second regular term of study.
- Students entering the program with a bachelor's degree, i.e., those who must complete 60 credits to earn the Ph.D. degree, generally complete most of their coursework before forming their Doctoral
Advisory Committee by the end of their fourth regular term in the program.

See Graduate School Policy 02.28.11 (http://bulletin.temple.edu/graduate/graduate-policies) for clarification on the composition of the Doctoral Advisory Committee.

Preliminary Examination:
All students generally complete their didactic coursework prior to taking the preliminary examination. (See Graduate School Policy 02.27.11 (http://bulletin.temple.edu/graduate/graduate-policies).) Students in the 30-credit cohort ordinarily take the exam in their third or fourth term. Students in the 60-credit cohort typically take the exam no later than the eighth regular term. Students should register for one credit of ECE 9994 Preliminary Examination Preparation in the term when the exam will be taken.

The preliminary exam tests both the student's core knowledge in Electrical Engineering and her/his capacity to synthesize and interpret research communications. The student coordinates the scheduling of the preliminary exam with the ECE Graduate Program Director. The ECE Graduate Program Director supervises the specific form, content, and frequency of the Electrical Engineering preliminary exam. A maximum of two opportunities to pass the preliminary exam are available to the student. In each term when the exam is attempted, the student registers for one credit of ECE 9994. Students are dismissed upon the second failure.

Dissertation Proposal:
Within a year of passing the preliminary exam, the student must develop a written research proposal and present it in an open College seminar.

Ten business days prior to the presentation seminar, the student must schedule the proposal and post an announcement. Immediately following the seminar, the Doctoral Advisory Committee questions the student about the details and strategy of her/his proposed research.

Approval is granted for the proposed dissertation research when the “Dissertation Proposal Transmittal for Elevation to Candidacy” form (found in TUportal under the Tools tab within “University Forms”) has been signed off by the entire Doctoral Advisory Committee. After the dissertation proposal has been accepted by the Doctoral Advisory Committee and the Graduate School has received the form, the student is considered to be a doctoral candidate. (See Graduate School Policy 02.28.12 (http://bulletin.temple.edu/graduate/graduate-policies) for more information.)

Research Credits:
Students carry out research throughout their studies and register for the corresponding research credits while in the Ph.D. program. However, the type of research credits that a student registers for depends on the student’s progress in the program:

- Prior to passing the preliminary exam, credit hours associated with the student’s research should be registered under ECE 9991 Directed Research.
- After the preliminary exam is passed, but before elevation to candidacy, credit hours associated with the student’s research should be registered under ECE 9998 Pre-Dissertation Research.
- After elevation to candidacy, the student’s research credits should be registered under ECE 9999 Dissertation Research. Students are required to register for at least three credits of ECE 9999 following their elevation to candidacy. (See Graduate School Policy 02.28.15 (http://bulletin.temple.edu/graduate/graduate-policies).)

Publications:
Paper writing and presentation at a conference are considered integral to the student’s training. Also, peer review, in part, offers an indication of the quality and novelty of the student’s research. All doctoral students must publish at least two technical papers in refereed journals or refereed conferences. The papers must be based on the student’s dissertation research with the student as the first author.

Dissertation:
The dissertation defense is an open University seminar in which the student presents the concepts and results of her/his research.

The student must coordinate the formation of the Dissertation Examining Committee in the term that s/he intends to defend her/his dissertation. This committee consists of the original Doctoral Advisory Committee plus one additional “external” member who is not faculty in the College of Engineering. If the external examiner is not a member of Temple University’s Graduate Faculty, the person must be approved by the Graduate School at least four weeks prior to the dissertation defense.

The dissertation defense is to take place during a regular academic term (i.e., not scheduled during study days, final exams, or the breaks between terms). If the student is to graduate in the same term as the dissertation defense is held, then the defense should take place at least 30 days prior to the end of the term to allow for document revisions.

Three weeks prior to the defense, the members of the committee elect a Chair of the Dissertation Examining Committee. The Chair cannot be the student’s doctoral advisor. The Associate Dean of Research and Graduate Studies must approve the selection. The Chair is identified to the Graduate School in the student’s official request for permission to schedule the defense. (See Graduate School Policy 02.28.15 (http://bulletin.temple.edu/graduate/graduate-policies).) The Chair’s role includes coordination of the proceedings of the defense and completion of all relevant College and Graduate School forms concerning the defense.

The dissertation document should be prepared in a format compliant with University standards. (See Graduate School Policy 02.28.18 (http://bulletin.temple.edu/graduate/graduate-policies).) A copy of the completed dissertation must be provided to the committee at least three weeks before the date of the dissertation defense. Note that any Graduate Faculty may request a copy of the dissertation in advance of the defense and may participate in the defense.

A minimum of two weeks prior to the defense, a public announcement of the defense must be posted. Prior to posting, this announcement must be approved in writing by the Graduate School. (See Graduate School Policy 02.28.16 (http://bulletin.temple.edu/graduate/graduate-policies).)

Immediately following the presentation, the Dissertation Examining Committee closely examines the student’s performance and her/his research. External attendees may participate in this closed portion of the defense with the permission of the Dissertation Examining Committee Chair. However, only members of the Dissertation Examining Committee may actually vote on the decision to accept the dissertation as prepared, accept the dissertation with revisions, or not accept the dissertation. If the dissertation is accepted with revisions, a revised copy of the dissertation must be submitted and approved by the Committee within 30 days of the original defense date.
Contacts

Program Web Address:
https://www.temple.edu/academics/degree-programs/electrical-engineering-phd-en-ece-phd

Department Information:
College of Engineering
ATTN: ECE Programs
1947 N. 12th Street
Philadelphia, PA 19122-6077
marshad@temple.edu
215-204-7800

Submission Address for Application Materials:
https://apply.temple.edu/Engineering/

Department Contacts:
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215-204-7800

Graduate Program Director, ECE:
Iyad Obeid, Ph.D.
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215-204-9033

Chairperson, ECE:
Li Bai, Ph.D.
lbai@temple.edu
215-204-6616

Engineering Management, M.S.

COLLEGE OF ENGINEERING (http://engineering.temple.edu)

Learn more about the Master of Science in Engineering Management (https://www.temple.edu/academics/degree-programs/engineering-management-ms-en-emgt-ms).

About the Program

The College of Engineering, which hosts the program, and the Fox School of Business and Management established this interdisciplinary Master of Science in Engineering Management. The degree program is designed as a career development option for students pursuing careers in technology-based ventures who desire to learn specific management techniques associated with the management of technology development and technology-based projects, either for customers or associated with the introduction of new technologies into existing organizations.

Students who complete the M.S. in Engineering Management learn many of the skills and approaches necessary to increase the productivity and innovative capacity of technology-driven organizations. They are exposed to aspects of management education, such as project management, IP strategy, and quality management, to which they may not have previously been exposed.

Campus Location: Many courses are offered on Main Campus and include online components. Eventually, students will be able to complete the program entirely online, but this is not an option in 2014 and 2015. The online program requires some in-person classroom participation.

Full-Time/Part-Time Status: The degree program can be completed full-time in one year or part-time over two years. Part-time students may extend the completion deadline to 3 years, based on circumstances.

Interdisciplinary Study: Designed as an interdisciplinary program, the source of courses has been balanced between the College of Engineering and Fox School of Business and Management.

Affiliation(s): Research is supported by the Fox School of Business and Management's Innovation and Entrepreneurship Institute and Small Business Development Center. Research interests of the Fox School and College of Engineering faculty are also supported by numerous centers and institutes throughout Temple University.

Ranking: Most of the content developed for the Engineering Management M.S. degree was developed by the Fox School of Business and Management, which is highly ranked. Current ranking information may be viewed at https://www.fox.temple.edu/about-fox/why-fox/rankings/.

Accreditation: The overall curriculum is designed to meet the requirements of the American Society for Engineering Management.

Non-Matriculated Student Policy: Students with an undergraduate GPA of 3.0 or higher may be allowed to take classes on a non-matriculated basis. Non-matriculated students may take a maximum of 9 credit hours. Any additional courses require the student to be matriculated in a program.

Financing Opportunities: Contact the department directly for more information.

Admission Requirements and Deadlines

Application Deadline:
Fall: March 1
Spring: November 1; August 1 international

Applications are processed on a continual basis. Late applications may be considered for admission. Ordinarily, the applicant is informed of an admissions decision within 6 weeks of receipt of all supporting application documents.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 3

From Whom: Recommendations should be professional references from supervisors and co-workers or academic references. References should be obtained from those who know the applicant well and who can attest to the applicant's ability to excel in the M.S. in Engineering Management program.

Coursework Required for Admission Consideration: Applicants should have a technical background in engineering, mathematics, science, or technology. Two years' relevant work experience in a company is preferred, but exceptions can be made.
Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree in engineering, science, or technology is required.

Statement of Goals: An essay on your professional plans and goals should be one to three pages in length. It should reflect your influences, values, aspirations, and interest in the M.S. in Engineering Management program. The following questions may be addressed:

- What particular past experiences or previous exposure (academic, professional, etc.) prepared or motivated you to pursue an M.S. in Engineering Management degree?
- How would you expect to change over the course of the program?
- What personal and professional values and skills do you hope to acquire through the academic content?
- How will obtaining the M.S. in Engineering Management degree support your career objectives or potential career path(s)?
- Given the importance of teamwork and collaboration in business, what are the most significant strengths or contributions you bring to a team?

Standardized Test Scores:
GRE: Required. Scores must be no more than 5 years in advance of the application date. (See Graduate School Policy 02.23.12 (http://bulletin.temple.edu/graduate/graduate-policies).) Applicants who request a waiver of the GRE should consult the Engineering Management Program Director concerning the mechanics and consequences of obtaining an exception.

TOEFL: 79 iBT or 550 PBT minimum. (See Graduate School Policy 02.23.13.01 (http://bulletin.temple.edu/graduate/graduate-policies).)

IELTS Academic version may be substituted for the TOEFL with a comparable minimum score of 6.5.

Resume: Current resume required.

Program Requirements

General Program Requirements: Number of Credits Required Beyond the Baccalaureate: 30, with a minimum of 16.5 credits taken in the College of Engineering and a minimum of 6 credits taken in the Fox School of Business and Management

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>EMGT 5631</td>
<td>Design Thinking</td>
<td>1.5</td>
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<tr>
<td>EMGT 5632</td>
<td>Idea to Invoice: Managing the New Product Development Process</td>
<td>3</td>
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<tr>
<td>EMGT 5633</td>
<td>Management Principles for Innovators, Engineers and Technologists</td>
<td>3</td>
</tr>
<tr>
<td>EMGT 5634</td>
<td>Project Management Overview and Project Management Essentials</td>
<td>1.5</td>
</tr>
<tr>
<td>EMGT 5635</td>
<td>Financial Management for Technologists</td>
<td>1.5</td>
</tr>
<tr>
<td>EMGT 5636</td>
<td>Lean Six Sigma and the Science of Improvement</td>
<td>3</td>
</tr>
<tr>
<td>EMGT 9995</td>
<td>Capstone for Engineering Management</td>
<td>3</td>
</tr>
</tbody>
</table>

Fox School of Business and Management Courses

Select courses from the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>SGM 5135</td>
<td>Innovation Intelligence: Plan, Build, Protect, and Monetize a Technology / Innovation Portfolio</td>
</tr>
<tr>
<td>SGM 5137</td>
<td>Entrepreneurial Thinking and New Venture Creation</td>
</tr>
<tr>
<td>SGM 5138</td>
<td>Global Innovation Strategy: Creating Agile, Innovative, Globally-Competitive Organizations</td>
</tr>
<tr>
<td>SGM 5139</td>
<td>Lean Entrepreneurship / Innovation: Fast &amp; Frugal Methods to Launch Startups &amp; Test Innovative Ideas</td>
</tr>
<tr>
<td>SGM 5142</td>
<td>Business Model Innovation</td>
</tr>
<tr>
<td>SGM 5144</td>
<td>Creativity Unleashed: Harnessing Creativity to Solve Real-World Innovation Challenges</td>
</tr>
<tr>
<td>SGM 5145</td>
<td>Plan, Pitch, and Fund an Entrepreneurial Start-Up</td>
</tr>
<tr>
<td>SGM 5148</td>
<td>Open Innovation and Managing Strategic Alliances</td>
</tr>
</tbody>
</table>

Electives 1 7.5

Total Credit Hours 30

1 Students select electives from either the Fox School of Business and Management (e.g., Managing Business Processes, Managing Productive Work Teams, New Venture Creation, Process Improvement and Innovation, or Quantitative Methods) or the College of Engineering (e.g., IP Strategy for Technologists).

Culminating Events: Successful completion of coursework constitutes the culminating event for the M.S. in Engineering Management.

Contacts

Program Web Address:
http://engineering.temple.edu/department/academics-departments-engineering-management

Department Information:
College of Engineering
ATTN: Engineering Management M.S. Program
1947 N. 12th Street
Philadelphia, PA 19122-6077
gradengr@temple.edu
215-204-7800

Submission Address for Application Materials:
https://apply.temple.edu/Engineering/

Department Contacts:

Admissions:
Cheryl Sharp
cheryl.sharp@temple.edu
215-204-7800

Program Director:
Tom Edwards
tuc56565@temple.edu
215-204-7794
Engineering Technology Management, M.E.T.M.

COLLEGE OF ENGINEERING (http://engineering.temple.edu)

About the Program

The College of Engineering, which hosts the program, and the Fox School of Business and Management established this interdisciplinary Master of Engineering Technology Management in Engineering Technology Management. The degree program is designed for individuals who wish to pursue careers in industry. The degree program exists in concert with other institutions offering graduate studies in the field of engineering technology in such a way that up to 15 credits of graduate engineering technology coursework is accepted by Temple University toward a 30-credit requirement for the M.E.T.M. degree. The remaining 15 credits are completed at Temple to earn the degree.

The initial partner institution is Northern Kentucky University (NKU). Temple University’s College of Engineering has agreed to accept graduate students having acceptable academic credentials without requiring a GRE. Students apply to both Temple University and to the institution offering engineering technology coursework at the graduate level. Students are expected to complete the engineering technology coursework at the partner institution in the Fall and then migrate to Temple for the Spring and Summer terms to complete engineering management coursework.

Time Limit for Degree Completion: 2 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program is expected to be completed full-time in one year, but can be completed on a part-time basis in two years.

Interdisciplinary Study: Designed as an interdisciplinary program, the source of courses has been balanced between the College of Engineering and the Fox School of Business and Management.

Affiliation(s): Research is supported by the Fox School of Business and Management’s Innovation and Entrepreneurship Institute and Small Business Development Center. Research interests of the Fox School and College of Engineering faculty are also supported by numerous centers and institutes throughout Temple University.

Ranking: The Fox School of Business and Management is highly ranked. Current ranking information may be viewed at https://www.fox.temple.edu/about-fox/why-fox/rankings/.

Areas of Specialization: Three areas of specialization are offered:

- Civil Engineering Technology Management
- Electrical Engineering Technology Management
- Mechanical Engineering Technology Management

Non-Matriculated Student Policy: Given that students begin coursework at a partner institution, coursework at Temple University cannot be taken on a non-matriculated basis.

Financing Opportunities: Contact the department directly for more information.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1; August 1 international

Applications are processed on a continual basis. Late applications may be considered for admission. Ordinarily, the applicant is informed of an admissions decision within 6 weeks of receipt of all supporting application documents.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 3

From Whom: Recommendations should be professional references from supervisors and co-workers or academic references. References should be obtained from those who know the applicant well and who can attest to the applicant's ability to excel in the M.E.T.M. in Engineering Technology Management program.

Coursework Required for Admission Consideration: Applicants should have a technical background in engineering, mathematics, science, or technology.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree in engineering, science, or technology is required.

Statement of Goals: An essay on your professional plans and goals should be one to three pages in length. It should reflect your influences, values, aspirations, and interest in the M.E.T.M. in Engineering Technology Management program. The following questions may be addressed:

- What particular past experiences or previous exposure (academic, professional, etc.) prepared or motivated you to pursue an M.E.T.M. degree?
- How would you expect to change over the course of the program?
- What personal and professional values and skills do you hope to acquire through the academic content?
- How will obtaining the M.E.T.M. degree support your career objectives or potential career path(s)?
- Given the importance of teamwork and collaboration in business, what are the most significant strengths or contributions you bring to a team?

Standardized Test Scores:

GRE: Waived for applicants with acceptable academic credentials.

TOEFL: 79 iBT or 550 PBT minimum. (See Graduate School Policy 02.23.13.01 (http://bulletin.temple.edu/graduate/graduate-policies/).

IELTS Academic version may be substituted for the TOEFL with a comparable minimum score of 6.5.

Resume: Current resume required.

Program Requirements

General Program Requirements:

Number of Didactic Credits Required Beyond the Baccalaureate: 30, with 15 credits taken at Temple University in the College of Engineering
and the Fox School of Business and Management after 15 credits are completed at a partner institution.

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td></td>
<td><strong>Engineering Technology Courses Completed at Partner Institution</strong></td>
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<tr>
<td></td>
<td>EMGT 5632 Idea to Invoice: Managing the New Product Development Process</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>EMGT 5633 Management Principles for Innovators, Engineers and Technologists</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>EMGT 5635 Financial Management for Technologists</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td><strong>Temple University Engineering Management Courses</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SGM 5117 New Venture Creation: Entrepreneurial Opportunities, Resources, and Teams</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>SGM 5118 Innovation-Based Strategy: Managing Disruptive Change</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>SGM 5122 Business Model Innovation: Profitable and High-Impact by Design</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>SGM 5124 Creative Problem Solving: Perspectives &amp; Techniques that Improve Creativity in Organizations &amp; Life</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>SGM 5126 Innovation Adoption and Diffusion: Finding First Customers and Driving Widespread Implementation</td>
<td>1.5</td>
</tr>
</tbody>
</table>

**Total Credit Hours:** 30

[1] Alternately, students may choose another 1.5-credit SGM course.

**Culminating Events:** This program requires no culminating event.

**Contacts**

**Department Web Address:**

http://engineering.temple.edu/departments-programs/graduate-studies

**Department Information:**

College of Engineering  
ATTN: Engineering Technology Management M.E.T.M. Program  
1947 N. 12th Street  
Philadelphia, PA 19122-6077  
gradengr@temple.edu  
215-204-7800

**Submission Address for Application Materials:**

https://apply.temple.edu/Engineering/

**Department Contacts:**

Admissions:  
Cheryl Sharp  
cheryl.sharp@temple.edu  
215-204-7800

Program Director:  
Tom Edwards

tuc56565@temple.edu  
215-204-7794

**Environmental Engineering, M.S.Env.E.**

COLLEGE OF ENGINEERING (http://engineering.temple.edu)

Learn more about the Master of Science in Environmental Engineering (https://www.temple.edu/academics/degree-programs/environmental-engineering-ms-en-enve-msen).

**About the Program**

The M.S.Env.E. program is designed to provide students with the opportunity to develop a greater technical competency in the general area of Environmental Engineering. Students are motivated to grow intellectually through the continued search for and use of knowledge, and are provided with the catalyst to become active, articulate, and socially aware individuals. Graduates of the program are key contributors to the civil engineering and environmental engineering professions.

**Time Limit for Degree Completion:** 5 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The degree program can be completed on a full- or part-time basis.

**Interdisciplinary Study:** The program encourages interdisciplinary research with other branches of engineering as well as with various departments in the sciences and applied mathematics. Recent collaborative work with the Department of Mechanical Engineering includes projects on water flow and solute transport in porous media (aquifers) and the effects of turbulence on the mixing of oil spills at sea. Collaboration with the Department of Chemistry includes research on waste combustion products and surface complexation.

**Areas of Specialization:** For each of the two areas of specialization, research includes:

- Civil Engineering Systems — three major branches of civil engineering: construction engineering, structural engineering, and transportation engineering.
- Environmental Engineering — the fundamentals and applications of water resources engineering, pollution in natural systems (water and air), and engineered treatment and remediation systems.

For the M.S.Env.E. program, students also choose between three tracks:

1. The Thesis Track is intended for students pursuing advanced research and includes 24 credits of didactic coursework, 3 credits of Project (CEE 9995), and 3 credits of Thesis (CEE 9996).
2. The Project Track introduces students to applied research and includes 27 credits of didactic coursework and 3 credits of Project (CEE 9995).
3. The Coursework Track provides students with an advanced engineering background for their future in the engineering profession through 30 credits of didactic coursework.

In the first term, the student and the CEE Graduate Program Director establish a graduate Plan of Study that outlines all required courses and the sequence for the student to follow. This form is used to track the student's progress as the various benchmarks in the program.
are completed. Once established, any revisions to the Plan of Study require approval in advance. However, if considering whether to change one's track, the student should note that:

- "Thesis" credits (CEE 9996) can only be applied toward the Thesis M.S.Env.E. Track and cannot be applied to either the Project or Coursework Tracks.
- "Project" credits (CEE 9995) can be applied toward the Thesis and Project M.S.Env.E. Tracks but cannot be used for the Coursework Track.

Job Prospects: Graduates with the M.S.Env.E. in Environmental Engineering are employed by various engineering companies as well as government agencies in design, analysis, and applications. Typical examples are water treatment facilities and regulatory agencies engaged in environmental regulation and pollution control; companies involved in construction project management; and those involved in structural design and analysis of buildings, bridges, and other structures. Students who complete an M.S.Env.E. with a thesis are prepared to enter a doctoral program.

Non-Matriculated Student Policy: Up to 9 credits of graduate Engineering coursework may be taken at Temple University on a non-matriculated basis and subsequently applied to the M.S.Env.E. degree upon admission. If the applicant's undergraduate GPA was less than 3.0, a GPA of 3.25 or better is required on this non-matriculated graduate coursework to receive an admissions exception. Consequently, the Civil and Environmental Engineering (CEE) Graduate Program Director may encourage those with an undergraduate GPA less than 3.0 to take their coursework to receive an admissions exception. Consequently, the Civil and Environmental Engineering (CEE) Graduate Program Director may encourage those with an undergraduate GPA less than 3.0 to take their first three graduate courses prior to making formal application to the M.S.Env.E. program. See the relevant Graduate School policies on special admission procedures for non-matriculated students: 02.23.11.03 and 02.24.19.

Financing Opportunities: Three forms of financial aid are offered to graduate students:

1. Teaching Assistantship (TA): TA awards are made solely by the Department and require the awardee to work 20 hours per week in support of the Department's undergraduate programs. The TA is compensated with a 9-month stipend, a basic health-insurance plan, and 9 credits per term of tuition remission.
2. Research Assistantship (RA): Individual CEE faculty confer RA awards, using their research funds, upon students who appear well-qualified to carry out the research. Typically, this faculty member becomes the RA's Thesis advisor. The RA normally works up to 20 hours per week and is compensated with a stipend, basic health insurance, and tuition remission.
3. Fellowships: These highly competitive University-wide grants are typically awarded only to Ph.D.-program applicants. See the Engineering, Ph.D. program for details.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1; August 1 international

Applications are processed on a continual basis. Late applications may be considered for admission. Ordinarily, the applicant is informed of an admissions decision within 4 to 6 weeks of receipt of all supporting application documents.

Applicants who plan to matriculate full-time are automatically considered for financial aid awards so no separate application for financial aid is required. To ensure financial aid consideration for the intended term of study, however, applicants should submit a complete application by January 15 (Fall) and August 1 (Spring).

Both admissions and financial aid award decisions originate in the Department of Civil and Environmental Engineering (CEE). Applicants are encouraged to contact the CEE Graduate Program Director for advice and consultation in the application process.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 3
From Whom: Letters of recommendation should be obtained from college or research faculty who are familiar with the applicant's competency. If the applicant has an established career in engineering, one of the letters should be provided by the applicant's immediate supervisor. If the applicant has been out of school long enough that relevant academic reference letters appear impractical, s/he should contact the CEE Graduate Program Director to obtain a waiver of this admission requirement.

Coursework Required for Admission Consideration: Students not adequately prepared for advanced courses may be required to take a number of prerequisites. The CEE Department identifies the needed coursework on a case-by-case basis.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree in Environmental Engineering is the preferred prerequisite degree. However, students who have earned a bachelor's degree in a related field are encouraged to apply, with the understanding that remedial preparatory courses may be a pre-condition of admission to the M.S.Env.E. program.

University regulations stipulate that the applicant must have earned a 3.0 grade-point average on a 4.0 scale in her/his undergraduate studies, but admission exceptions are made for a variety of circumstances. (See Graduate School Policy 02.23.11.03.) The CEE Graduate Program Director helps the applicant navigate the admission possibilities, including the "Non-Matriculated Student Policy" option.

Statement of Goals: Describe your relevant technical experiences and career goals in one to two pages.

Standardized Test Scores:

GRE: Required. Scores must be no more than 5 years in advance of the application date. (See Graduate School Policy 02.23.12.) Applicants who require a waiver of the GRE should consult the CEE Graduate Program Director concerning the mechanics and consequences of obtaining an exception.

TOEFL: 79 iBT or 550 PBT minimum. (See Graduate School Policy 02.23.13.01.)

Resume: Current resume required.

Transfer Credit: Graduate credits taken at an accredited institution prior to matriculation may be transferred into the M.S.Env.E. program. In order
to transfer, the courses must be equivalent to courses offered at Temple in the student's area of study and research, and the grades must be "B" or better. The maximum number of credits a student may transfer is 6. (See Graduate School Policy 02.24.21 [http://bulletin.temple.edu/graduate/graduate-policies].)

Test Waivers: Applicants with two or more years of employment in an engineering profession performing engineering design and analysis may request a waiver of the GRE. Consult with the CEE Graduate Program Director concerning the mechanics and consequences of obtaining an exception.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

Thesis Track

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Courses</td>
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<tr>
<td>CEE 5701</td>
<td>Physical Principals of Environmental Systems</td>
<td>3</td>
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<tr>
<td>or CEE 8701</td>
<td>Advanced Physical/Chemical Treatment Processes</td>
<td></td>
</tr>
<tr>
<td>CEE 5702</td>
<td>Chemical Principles of Environmental Systems</td>
<td>3</td>
</tr>
<tr>
<td>or CEE 5762</td>
<td>Environmental Organic Chemistry</td>
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<tr>
<td>CEE 5794</td>
<td>Advanced Biological Wastewater Treatment</td>
<td>3</td>
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<tr>
<td>or CEE 5793</td>
<td>Environmental Biotechnology</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
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<tr>
<td>Select five from the following:</td>
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</tr>
<tr>
<td>CEE 5621</td>
<td>Engineering Hydrology</td>
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</tr>
<tr>
<td>or CEE 8701</td>
<td>Advanced Physical/Chemical Treatment Processes</td>
<td></td>
</tr>
<tr>
<td>CEE 5622</td>
<td>Fate of Pollutants in Subsurface Environments</td>
<td></td>
</tr>
<tr>
<td>CEE 5623</td>
<td>Contaminant Dynamics in Urban Streams</td>
<td></td>
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<tr>
<td>CEE 5631</td>
<td>Environmental Hydrology</td>
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</tr>
<tr>
<td>CEE 5641</td>
<td>Urban Streams and Stormwater Management</td>
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<tr>
<td>CEE 5711</td>
<td>Air Pollution Control</td>
<td></td>
</tr>
<tr>
<td>or CEE 8751</td>
<td>Water and Wastewater Systems Design</td>
<td></td>
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<tr>
<td>Non-Didactic Courses</td>
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<td></td>
</tr>
<tr>
<td>CEE 9995</td>
<td>Project</td>
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<tr>
<td>CEE 9996</td>
<td>Thesis</td>
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Total Credit Hours: 30

Project Track

<table>
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<tr>
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<tbody>
<tr>
<td>Core Courses</td>
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<tr>
<td>CEE 5701</td>
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<td>or CEE 8701</td>
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<td>Select six from the following:</td>
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<td>CEE 5621</td>
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<tr>
<td>CEE 5623</td>
<td>Contaminant Dynamics in Urban Streams</td>
<td></td>
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<tr>
<td>CEE 5631</td>
<td>Environmental Hydrology</td>
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<tr>
<td>CEE 5641</td>
<td>Urban Streams and Stormwater Management</td>
<td></td>
</tr>
<tr>
<td>CEE 5711</td>
<td>Air Pollution Control</td>
<td></td>
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<tr>
<td>or CEE 8751</td>
<td>Water and Wastewater Systems Design</td>
<td></td>
</tr>
</tbody>
</table>
Total Credit Hours: 30

Culminating Events:

Thesis Track:
The culminating events in the Thesis Track are typically undertaken during the last two successive terms of study. Successful completion requires the following:

- Thesis Proposal — CEE 9995 Project (3 credits)
  Under the guidance of the advisor, the student conducts independent research on an applied engineering topic of current interest and registers for CEE 9995. This work includes the research and preliminary results that form the basis of an extended study that the student plans to carry on in CEE 9996 Thesis in the following term. The student submits a research report as her/his Thesis Proposal to a committee consisting of three or more faculty members, including the faculty advisor, and presents her/his proposal in an open College-wide seminar, which is scheduled and posted at least 10 business days in advance of the presentation date. Immediately following the presentation, the student's advisory committee questions the student about the details and strategy of the proposed research. The committee then accepts, accepts with revisions, or rejects the proposal.
The student must pass the Thesis Proposal before registering for CEE 9996. If the student fails Thesis Proposal, s/he may either re-register for CEE 9995 (1 credit) in the next regular term and repeat the entire proposal process or consider switching to the Project or Coursework Track. NOTE: A second failure of Thesis Proposal results in automatic dismissal from the University. If switching to another track, the Plan of Study form requires updating and appropriate approvals.

- **Thesis Defense — CEE 9996** (3 credits)
The student should register for CEE 9996 in the term that s/he plans to defend the thesis. The thesis document should be prepared in a format compliant with University standards. (See Graduate School Policy 02.26.12.02 [http://bulletin.temple.edu/graduate/graduate-policies].) Two weeks prior to the thesis defense, the student provides the committee with a copy of the completed thesis and posts an announcement of the defense, which is to take place during a regular academic term (i.e., not scheduled during study days, final exams, or the breaks between terms). If the student is to graduate in the same term as the thesis defense is held, then the defense should take place at least 30 days prior to the end of the term.

The thesis defense is an open College seminar in which the student presents the concepts and results of her/his research. Immediately following the defense, the thesis committee convenes to closely examine the student’s research and decide to accept the thesis as provided, the thesis with revisions, or not accept the thesis. If the thesis is accepted, a letter grade for CEE 9996 is assigned. If the thesis is accepted with revisions, then the student must submit the revised thesis within 30 days and with the approval of the Thesis Committee. If the thesis is not accepted, but the committee decides to not fail the student, an "R" grade is assigned to CEE 9996. In the following term, the student registers for one credit of ENGR 9991 Directed Research until s/he is again prepared to attempt the defense. The defense procedures described above are then carried out again in the term that the student is prepared to defend the thesis.

**Project Track:**
The culminating event for the Project Track is CEE 9995 Project. This entails a one-term research activity done under the supervision of a full-time faculty advisor on an applied engineering topic of interest. Near the end of the term, the student prepares a report of her/his findings and presents the study in an open departmental seminar. Both the seminar and the written report are used to determine the student’s grade for CEE 9995. The grade is determined jointly by the advisor and another designated grader selected by the Graduate Program Director.

**Coursework Track:**
No culminating event is warranted for the Coursework Track.

**Contacts**

**Program Web Address:**
https://www.temple.edu/academics/degree-programs/environmental-engineering-ms-en-enve-phd

**Department Information:**
Dept. of Civil and Environmental Engineering
ATTN: CEE Programs, College of Engineering
1947 N. 12th Street
Philadelphia, PA 19122-6077
marshad@temple.edu
215-204-7800

**Submission Address for Application Materials:**
https://apply.temple.edu/Engineering/

**Department Contacts:**
Admissions:
Cheryl Sharp
cheryl.sharp@temple.edu
215-204-7800

Graduate Program Director, CEE:
Rouzbeh Tehrani, Ph.D.
r.tehrani@temple.edu
215-204-2590

**Chairperson, CEE:**
Rominder Suri, Ph.D.
rsuri@temple.edu
215-204-2378

**Environmental Engineering, Ph.D.**

COLLEGE OF ENGINEERING [http://engineering.temple.edu]

Learn more about the Doctor of Philosophy in Environmental Engineering [https://www.temple.edu/academics/degree-programs/environmental-engineering-phd-en-enve-phd].

**About the Program**
The Ph.D. in Environmental Engineering is designed to produce graduates who have:

- built a solid core knowledge base in science, technology, environmental engineering, and mathematics;
- gained the ability to adapt to interdisciplinary research projects and employ emerging technology;
- learned how to plan, develop, and conduct a research project on their own as future principal investigators; and
- mastered professional oral and written communication skills.

**Time Limit for Degree Completion:** 7 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** Students are able to complete the didactic portion of the Ph.D. degree program through classes offered after 4:30 p.m.

**Interdisciplinary Study:** Research in Environmental Engineering is interdisciplinary and requires collaboration of members of the faculty and students within all departments of the College of Engineering, in the Mathematics Department and departments engaged in the study of the sciences, and at the School of Medicine at Temple University.

**Areas of Specialization:** Faculty in the Department of Civil and Environmental Engineering are actively engaged in research in the following areas of Environmental Engineering:

- Advanced Treatments for Drinking Water and Wastewater
- Emerging Contaminants in the Environment
- Environmental Biotechnology
Job Prospects: The program is primarily intended for individuals who wish to pursue careers in industry, government, and academia in a highly creative environment. The program is dedicated to producing engineers who will contribute to advancements in environmental engineering.

Non-Matriculated Student Policy: Up to 9 credits of graduate Engineering coursework may be taken at Temple University on a non-matriculated basis and subsequently applied to the Ph.D. degree upon admission. If the applicant’s undergraduate GPA was less than 3.0, a GPA of 3.25 or better is required on this non-matriculated graduate coursework to receive an admissions exception. Consequently, the Environmental Engineering Graduate Program Director may encourage those with an undergraduate GPA less than 3.0 to take their first three graduate courses prior to making formal application to the Ph.D. program. (See the relevant Graduate School policies on special admission procedures for non-matriculated students: 02.23.11.03 (http://bulletin.temple.edu/graduate/graduate-policies) and 02.24.19 (http://bulletin.temple.edu/graduate/graduate-policies).)

Financing Opportunities: Applicants for full-time study in the Environmental Engineering Ph.D. program are automatically considered for financial aid. Three forms of financial aid are awarded to Ph.D. students on a competitive basis:

1. Teaching Assistantship (TA): TA awards are made solely by the Department and require the awardee to work 20 hours per week in support of the Department’s undergraduate programs. The TA is compensated with a 9-month stipend, a basic health-insurance plan, and 9 credits per term of tuition remission.

2. Research Assistantship (RA): Individual faculty confer RA awards, using their research funds, upon students who appear well-qualified to carry out the research. Typically, this faculty member becomes the RA’s doctoral advisor. The RA normally works up to 20 hours per week and is compensated with a stipend, basic health insurance, and tuition remission.

3. Fellowships: Fellowships are awarded by the University in a competitive process that is open to all Ph.D. applicants. The Environmental Engineering Graduate Program Director nominates exceptional Ph.D. applicants for a University Fellowship. Fellows receive 9 to 12 months of stipend, depending on the award; basic health insurance; and 12 credits of tuition remission each Fall and Spring term. Fellowships of the University have no work obligations with respect to either the Department, the College, or the University.

Because financial aid is awarded on a competitive basis, applicants are urged to complete the application as early as possible.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1; August 1 international

TOEFL: 79 iBT or 550 PBT minimum. (See Graduate School Policy 02.23.13.01 (http://bulletin.temple.edu/graduate/graduate-policies).) Applicants who require a waiver of the TOEFL should consult the Environmental Engineering Graduate Program Director concerning the mechanics and consequences of obtaining an exception.

Resume: Current resume required.
Program Requirements

General Program Requirements:

Minimum Number of Credits Required Beyond the Bachelor’s: 60, including 45 credits of graduate-level didactic coursework and 15 research credits, including preliminary Ph.D. examination and dissertation research.

Minimum Number of Credits Required Beyond the Master’s: 30, including 15 credits of graduate-level didactic coursework and 15 research credits, including preliminary Ph.D. examination and dissertation research.

Required Courses:

Post-Baccalaureate (for students WITHOUT a master's degree in Environmental Engineering)

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<tr>
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<td>45</td>
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<tr>
<td>CEE 9991</td>
<td>Directed Research (8 credits)</td>
<td></td>
</tr>
<tr>
<td>CEE 9994</td>
<td>Preliminary Examination Preparation (1 credit)</td>
<td></td>
</tr>
<tr>
<td>CEE 9998</td>
<td>Pre-Dissertation Research (3 credits)</td>
<td></td>
</tr>
<tr>
<td>CEE 9999</td>
<td>Dissertation Research (3 credits)</td>
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</tr>
</tbody>
</table>

Total Credit Hours: 60

1 Didactic coursework is typically selected by the student’s Doctoral Advisory Committee. It may include up to, but no more than, 3 credits of CEE 9182 Independent Study I, 3 credits of CEE 9282 Independent Study II, or 3 credits of CEE 9991 Directed Research. Furthermore, students who wish to take graduate coursework outside the College of Engineering in one of Temple University’s other schools/colleges need to obtain the appropriate written approvals on their Plan of Study form.

2 Expected distribution of the 15 credits associated with Ph.D. examinations and dissertation research is shown, although the actual distribution of credits can vary across courses depending on the student’s particular circumstances.

Post-Master’s (for students WITH a master’s degree in Environmental Engineering)

<table>
<thead>
<tr>
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<th>Credit Hours</th>
</tr>
</thead>
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<td><strong>Didactic Courses</strong></td>
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<tr>
<td>CEE 9991</td>
<td>Directed Research (8 credits)</td>
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</tr>
<tr>
<td>CEE 9994</td>
<td>Preliminary Examination Preparation (1 credit)</td>
<td></td>
</tr>
<tr>
<td>CEE 9998</td>
<td>Pre-Dissertation Research (3 credits)</td>
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</tr>
<tr>
<td>CEE 9999</td>
<td>Dissertation Research (3 credits)</td>
<td></td>
</tr>
</tbody>
</table>

Culminating Events:

Formation of the Doctoral Advisory Committee:
Selection of a research advisor and formation of a Doctoral Advisory Committee constitute the first steps toward achieving a Ph.D. Selection of a doctoral advisor depends on the student’s level of preparation upon entering the Ph.D. program. The Doctoral Advisory Committee selects the required coursework and guides the progress of the student’s dissertation research:

- Students entering the Ph.D. program with a master's degree, i.e., those who must complete 30 credits to earn the degree, form their Doctoral Advisory Committee before the end of their second regular term of study.
- Students entering the program with a bachelor's degree, i.e., those who must complete 60 credits to earn the Ph.D. degree, generally complete most of their coursework before forming their Doctoral Advisory Committee by the end of their fourth regular term in the program.

See Graduate School Policy 02.28.11 (http://bulletin.temple.edu/graduate/graduate-policies) for clarification on the composition of the Doctoral Advisory Committee.

Preliminary Examination:
All students generally complete their didactic coursework prior to taking the preliminary examination. (See Graduate School Policy 02.27.11 (http://bulletin.temple.edu/graduate/graduate-policies).) Students in the 30-credit cohort ordinarily take the exam in their third or fourth term. Students in the 60-credit cohort typically take the exam no later than the eighth regular term. Students should register for one credit of CEE 9994 Preliminary Examination Preparation in the term when the exam will be taken.

The preliminary exam tests both the student’s core knowledge in Environmental Engineering and her/his capacity to synthesize and...
interpret research communications. The student coordinates the scheduling of the preliminary exam with the CEE Graduate Program Director. The CEE Graduate Program Director supervises the specific form, content, and frequency of the Environmental Engineering preliminary exam. A maximum of two opportunities to pass the preliminary exam are available to the student. In each term when the exam is attempted, the student registers for one credit of CEE 9994. Students are dismissed upon the second failure.

**Dissertation Proposal:**
Within a year of passing the preliminary exam, the student must develop a written research proposal and present it in an open College seminar. Ten business days prior to the presentation seminar, the student must schedule the proposal and post an announcement. Immediately following the seminar, the Doctoral Advisory Committee questions the student about the details and strategy of her/his proposed research. Approval is granted for the proposed dissertation research when the "Dissertation Proposal Transmittal for Elevation to Candidacy" form (found in TUPortal under the Tools tab within "University Forms") has been signed off by the entire Doctoral Advisory Committee. After the dissertation proposal has been accepted by the Doctoral Advisory Committee and the Graduate School has received the form, the student is considered to be a doctoral candidate. (See Graduate School Policy 02.28.12 (http://bulletin.temple.edu/graduate/graduate-policies) for more information.)

**Research Credits:**
Students carry out research throughout their studies and register for the corresponding research credits while in the Ph.D. program. However, the type of research credits that a student registers for depends on the student’s progress in the program:

- Prior to passing the preliminary exam, credit hours associated with the student’s research should be registered under CEE 9991 Directed Research.
- After the preliminary exam is passed, but before elevation to candidacy, credit hours associated with the student’s research should be registered under CEE 9998 Pre-Dissertation Research.
- After elevation to candidacy, the student’s research credits should be registered under CEE 9999 Dissertation Research. Students are required to register for at least three credits of CEE 9999 following their elevation to candidacy. (See Graduate School Policy 02.28.15 (http://bulletin.temple.edu/graduate/graduate-policies).)

**Publications:**
Paper writing and presentation at a conference are considered integral to the student’s training. Also, peer review, in part, offers an indication of the quality and novelty of the student’s research. All doctoral students must publish at least two technical papers in refereed journals or refereed conferences. The papers must be based on the student’s dissertation research with the student as the first author.

**Dissertation:**
The dissertation defense is an open University seminar in which the student presents the concepts and results of her/his research. The student must coordinate the formation of the Dissertation Examining Committee in the term that s/he intends to defend her/his dissertation. This committee consists of the original Doctoral Advisory Committee plus one additional “external” member who is not faculty in the College of Engineering. If the external examiner is not a member of Temple University’s Graduate Faculty, the person must be approved by the Graduate School at least four weeks prior to the dissertation defense.

The dissertation defense is to take place during a regular academic term (i.e., not scheduled during study days, final exams, or the breaks between terms). If the student is to graduate in the same term as the dissertation defense is held, then the defense should take place at least 30 days prior to the end of the term to allow for document revisions.

Three weeks prior to the defense, the members of the committee elect a Chair of the Dissertation Examining Committee. The Chair cannot be the student’s doctoral advisor. The Associate Dean of Research and Graduate Studies must approve the selection. The Chair is identified to the Graduate School in the student’s official request for permission to schedule the defense. (See Graduate School Policy 02.28.15 (http://bulletin.temple.edu/graduate/graduate-policies).) The Chair’s role includes coordination of the proceedings of the defense and completion of all relevant College and Graduate School forms concerning the defense.

The dissertation document should be prepared in a format compliant with University standards. (See Graduate School Policy 02.28.18 (http://bulletin.temple.edu/graduate/graduate-policies).) A copy of the completed dissertation must be provided to the committee at least three weeks before the date of the dissertation defense. Note that any Graduate Faculty may request a copy of the dissertation in advance of the defense and may participate in the defense.

A minimum of two weeks prior to the defense, a public announcement of the defense must be posted. Prior to posting, this announcement must be approved in writing by the Graduate School. (See Graduate School Policy 02.28.16 (http://bulletin.temple.edu/graduate/graduate-policies).)

Immediately following the presentation, the Dissertation Examining Committee closely examines the student’s performance and her/his research. External attendees may participate in this closed portion of the defense with the permission of the Dissertation Examining Committee Chair. However, only members of the Dissertation Examining Committee may actually vote on the decision to accept the dissertation as prepared, accept the dissertation with revisions, or not accept the dissertation. If the dissertation is accepted with revisions, a revised copy of the dissertation must be submitted and approved by the Committee within 30 days of the original defense date.

**Contacts**

**Program Web Address:**
https://www.temple.edu/academics/degree-programs/environmental-engineering-phd-en-ene-phd

**Department Information:**
College of Engineering
ATTN: CEE Programs
1947 N. 12th Street
Philadelphia, PA 19122-6077
marshad@temple.edu
215-204-7800

**Submission Address for Application Materials:**
https://apply.temple.edu/Engineering/
Department Contacts:

Admissions:
Cheryl Sharp
cheryl.sharp@temple.edu
215-204-7800

Graduate Program Director, CEE:
Rouzbeh Tehrani, Ph.D.
r.tehrani@temple.edu
215-204-2590

Chairperson, CEE:
Rominder Suri, Ph.D.
rsuri@temple.edu
215-204-2378

Mechanical Engineering, M.S.M.E.

COLLEGE OF ENGINEERING (http://engineering.temple.edu)

Learn more about the Master of Science in Mechanical Engineering (https://www.temple.edu/academics/degree-programs/mechanical-engineering-ms-en-me-msme).

About the Program

The M.S.M.E. program provides students who already have an undergraduate Engineering degree with the credentials and background to pursue a career in industrial research and development. The program provides students from diverse basic science backgrounds with the fundamental technical engineering expertise necessary to work in an interdisciplinary field such as Bioengineering or Material Science. The program provides engineers who are currently employed with a means to further their technical capabilities through part-time study.

Time Limit for Degree Completion: 5 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: The program encourages interdisciplinary research with other branches of engineering as well as with various departments of the College of Science and Technology and the School of Medicine. Faculty are also collaborating with investigators in the Department of Civil and Environmental Engineering on water turbulence studies; in the Department of Electrical and Computer Engineering on heat dissipation in microelectronic components; and in the Department of Physics on nanotechnology research.

Areas of Specialization: Research is offered in:

- Biomaterials
- Composite materials and design
- Finite element analysis and computational fluid dynamics
- Fluidics and energetics
- Target drug delivery and tissue engineering

For the M.S.M.E. program, students also choose between three tracks:

1. The Thesis Track is intended for students pursuing advanced research and includes 24 credits of didactic coursework, 3 credits of Project (MEE 9995), and 3 credits of Thesis (MEE 9996).
2. The Project Track introduces students to applied research and includes 27 credits of didactic coursework and 3 credits of Project (MEE 9995).
3. The Coursework Track provides students with an advanced engineering background for their future in the engineering profession through 30 credits of didactic coursework.

In the first term, the student and the ME Graduate Program Director establish a graduate Plan of Study that outlines all required courses and the sequence for the student to follow. This form is used to track the student’s progress as the various benchmarks in the program are completed. Once established, any revisions to the Plan of Study require approval in advance. However, if considering whether to change one’s track, the student should note that:

- "Thesis" credits (MEE 9996) can only be applied toward the Thesis M.S.M.E. Track and cannot be applied to either the Project or Coursework Tracks.
- "Project" credits (MEE 9995) can be applied toward the Thesis and Project M.S.M.E. Tracks but cannot be used for the Coursework Track.

Job Prospects: Graduates with the M.S.M.E. in Mechanical Engineering are employed in high-tech industries and government laboratories in design, analysis, and applications. Typical employers include manufacturing companies; pharmaceutical and biotechnology companies; companies involved in research and development in fluid flow and heat transfer; computer-aided designers and manufacturers; computer technology firms; and government offices such as the U.S. Patent and Trademark Office. Students who complete an M.S.M.E. with a thesis are prepared to enter a doctoral program.

Non-Matriculated Student Policy: Up to 9 credits of graduate Engineering coursework may be taken at Temple University on a non-matriculated basis and subsequently applied to the M.S.M.E. degree upon admission. If the applicant’s undergraduate GPA was less than 3.0, a GPA of 3.25 or better is required on this non-matriculated graduate coursework to receive an admissions exception. Consequently, the Mechanical Engineering (ME) Graduate Program Director may encourage those with an undergraduate GPA less than 3.0 to take their first three graduate courses prior to making formal application to the M.S.M.E. program. (See the relevant Graduate School policies on special admission procedures for non-matriculated students: 02.23.11.03 (http://bulletin.temple.edu/graduate/graduate-policies) and 02.24.19 (http://bulletin.temple.edu/graduate/graduate-policies).)

Financing Opportunities: Three forms of financial aid are offered to graduate students:

1. Teaching Assistantship (TA): TA awards are made solely by the Department and require the awardee to work 20 hours per week in support of the Department’s undergraduate programs. The TA is compensated with a 9-month stipend, a basic health-insurance plan, and 9 credits per term of tuition remission.
2. Research Assistantship (RA): Individual ME faculty confer RA awards, using their research funds, upon students who appear well-qualified to carry out the research. Typically, this faculty member becomes the RA’s Thesis advisor. The RA normally works up to 20
hours per week and is compensated with a stipend, basic health insurance, and tuition remission.

3. Fellowships: These highly competitive University-wide grants are typically awarded only to Ph.D.-program applicants. See the Engineering, Ph.D. (http://bulletin.temple.edu/graduate/scd/engineering/engineering-phd) program description for details.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1; August 1 international

Applications are processed on a continual basis. Late applications may be considered for admission. Ordinarily, the applicant is informed of an admissions decision within 4 to 6 weeks of receipt of all supporting application documents.

Applicants who plan to matriculate full-time are automatically considered for financial aid awards so no separate application for financial aid is required. To ensure financial aid consideration for the intended term of study, however, applicants should submit a complete application by January 15 (Fall) and August 1 (Spring).

Both admissions and financial aid award decisions originate in the Department of Mechanical Engineering (ME). Applicants are encouraged to contact the ME Graduate Program Director for advice and consultation in the application process.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from college or research faculty who are familiar with the applicant's competency. If the applicant has an established career in engineering, one of the letters should be provided by the applicant's immediate supervisor. If the applicant has been out of school long enough that relevant academic reference letters appear impractical, s/he should contact the ME Graduate Program Director to obtain a waiver of this admission requirement.

Coursework Required for Admission Consideration: Students not adequately prepared for advanced courses may be required to take a number of prerequisites. The ME Department identifies the needed coursework on a case-by-case basis.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree in Mechanical Engineering is the preferred prerequisite degree. However, students who have earned a bachelor's degree in a related field are encouraged to apply, with the understanding that remedial preparatory courses may be a pre-condition of admission to the M.S.M.E. program.

University regulations stipulate that the applicant must have earned a 3.0 grade-point average on a 4.0 scale in her/his undergraduate studies, but admission exceptions are made for a variety of circumstances. (See Graduate School Policy 02.23.11.03 (http://bulletin.temple.edu/graduate/graduate-policies).) The ME Graduate Program Director helps the applicant navigate the admission possibilities, including the "Non-Matriculated Student Policy" option.

Statement of Goals: Describe your relevant technical experiences and career goals in one to two pages.

Standardized Test Scores:
GRE: Required. Scores must be no more than 5 years in advance of the application date. (See Graduate School Policy 02.23.12 (http://bulletin.temple.edu/graduate/graduate-policies).) Applicants who require a waiver of the GRE should consult the ME Graduate Program Director concerning the mechanics and consequences of obtaining an exception.

TOEFL: 79 iBT or 550 PBT minimum. (See Graduate School Policy 02.23.13.01 (http://bulletin.temple.edu/graduate/graduate-policies).)

Resume: Current resume required.

Transfer Credit: Graduate credits taken at an accredited institution prior to matriculation may be transferred into the M.S.M.E. program. In order to transfer, the courses must be equivalent to courses offered at Temple in the student's area of study and research, and the grades must be "B" or better. The maximum number of credits a student may transfer is 6. (See Graduate School Policy 02.24.21 (http://bulletin.temple.edu/graduate/graduate-policies).)

Test Waivers: Applicants with two or more years of employment in an engineering profession performing engineering design and analysis may request a waiver of the GRE. Consult with the ME Graduate Program Director concerning the mechanics and consequences of obtaining an exception.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

Thesis Track

Code Title Credit Hours

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<th>Core Courses</th>
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<tr>
<td>Select one additional course from the following:</td>
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<td>MEE 5411 Introduction to Mobile Robotics</td>
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<tr>
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<td>MEE 9996 Thesis</td>
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<td>Total Credit Hours</td>
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1 Coursework may include up to, but no more than, 3 credits of ENGR 9182 Independent Study I or 3 credits of MEE 9991 Directed Research. Furthermore, students who wish to take graduate coursework outside the College of Engineering in one of Temple University’s other schools/colleges need to obtain the appropriate written approvals on their Plan of Study form.
Project Track

<table>
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<td>MEE 5411</td>
<td>Introduction to Mobile Robotics</td>
<td></td>
</tr>
<tr>
<td>MEE 5577</td>
<td>Power Generation and Storage Technologies</td>
<td></td>
</tr>
<tr>
<td>MEE 5731</td>
<td>Cardiovascular Fluid Dynamics</td>
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<td>Electives</td>
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<tr>
<td>MEE 9995</td>
<td>Project</td>
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</table>

Total Credit Hours 30

1 Coursework may include up to, but no more than, 3 credits of ENGR 9182 Independent Study I or 3 credits of MEE 9991 Directed Research. Furthermore, students who wish to take graduate coursework outside the College of Engineering in one of Temple University’s other schools/colleges need to obtain the appropriate written approvals on their Plan of Study form.

Coursework Track

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<td>MEE 5411</td>
<td>Introduction to Mobile Robotics</td>
<td></td>
</tr>
<tr>
<td>MEE 5577</td>
<td>Power Generation and Storage Technologies</td>
<td></td>
</tr>
<tr>
<td>MEE 5731</td>
<td>Cardiovascular Fluid Dynamics</td>
<td></td>
</tr>
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<td>Electives</td>
<td></td>
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</tr>
</tbody>
</table>

Total Credit Hours 30

1 Coursework may include up to, but no more than, 3 credits of ENGR 9182 Independent Study I or 3 credits of MEE 9991 Directed Research. Furthermore, students who wish to take graduate coursework outside the College of Engineering in one of Temple University’s other schools/colleges need to obtain the appropriate written approvals on their Plan of Study form.

Culminating Events:

Thesis Track:
The culminating events in the Thesis Track are typically undertaken during the last two successive terms of study. Successful completion requires the following:

- **Thesis Proposal — MEE 9995 Project (3 credits)**
  Under the guidance of the advisor, the student conducts independent research on an applied engineering topic of interest and registers for MEE 9995. This work includes the research and preliminary results that form the basis of an extended study that the student plans to carry on in MEE 9996 Thesis in the following term. The student submits a research report as her/his Thesis Proposal to a committee consisting of three or more faculty members, including the faculty advisor, and presents her/his proposal in an open College-wide seminar, which is scheduled and posted at least 10 business days in advance of the presentation date. Immediately following the presentation, the student’s advisory committee questions the student about the details and strategy of the proposed research. The committee then accepts, accepts with revisions, or rejects the proposal. The student must pass the Thesis Proposal before registering for MEE 9996. If the student fails Thesis Proposal, s/he may either re-register for MEE 9995 (1 credit) in the next regular term and repeat the entire proposal process or consider switching to the Project or Coursework Track. **NOTE:** A second failure of Thesis Proposal results in automatic dismissal from the University. If switching to another track, the Plan of Study form requires updating and appropriate approvals.

- **Thesis Defense — MEE 9996 Thesis (3 credits)**
  The student should register for MEE 9996 in the term that s/he plans to defend the thesis. The thesis document should be prepared in a format compliant with University standards. (See Graduate School Policy 02.26.12.02 (http://bulletin.temple.edu/graduate/graduate-policies/)) Two weeks prior to the thesis defense, the student provides the committee with a copy of the completed thesis and posts an announcement of the defense, which is to take place during a regular academic term (i.e., not scheduled during study days, final exams, or the breaks between terms). If the student is to graduate in the same term as the thesis defense is held, then the defense should take place at least 30 days prior to the end of the term. The thesis defense is an open College seminar in which the student presents the concepts and results of her/his research. Immediately following the defense, the thesis committee convenes to closely examine the student’s research and decide to accept the thesis as provided, accept the thesis with revisions, or not accept the thesis. If the thesis is accepted, a letter grade for MEE 9996 is assigned. If the thesis is accepted with revisions, then the student must submit the revised thesis within 30 days and with the approval of the Thesis Committee. If the thesis is not accepted, but the committee decides not to fail the student, an “R” grade is assigned to MEE 9996. In the following term, the student registers for one credit of ENGR 9991 Directed Research until s/he is again prepared to attempt the defense. The defense procedures described above are then carried out again in the term that the student is prepared to defend the thesis.

Project Track:
The culminating event for the Project Track is MEE 9995 Project. This entails a one-term research activity done under the supervision of a full-time faculty advisor on an applied engineering topic of interest. Near the end of the term, the student prepares a report of her/his findings and presents the study in an open departmental seminar. Both the seminar and the written report are used to determine the student’s grade for MEE 9995. The grade is determined jointly by the advisor and another designated grader selected by the Graduate Program Director.

Coursework Track:
No culminating event is warranted for the Coursework Track.

Contacts

Program Web Address:
https://www.temple.edu/academics/degree-programs/mechanical-engineering-ms-en-me-msme

Department Information:
Dept. of Mechanical Engineering
ATTN: ME Programs, College of Engineering
1947 N. 12th Street
Submission Address for Application Materials:
https://apply.temple.edu/Engineering/

Department Contacts:
Admissions:
Cheryl Sharp
cheryl.sharp@temple.edu
215-204-7800

Graduate Program Director, ME:
Parsaoran Hutapea, Ph.D.
hutapea@temple.edu
215-204-7805

Interim Chairperson, ME:
Shih-Jiun (Jim) Chen, Ph.D.
jsjchen@temple.edu
215-204-4305

Mechanical Engineering, Ph.D.

COLLEGE OF ENGINEERING (http://engineering.temple.edu)

Learn more about the Doctor of Philosophy in Mechanical Engineering (https://www.temple.edu/academics/degree-programs/mechanical-engineering-phd-en-me-phd).

About the Program

The Ph.D. in Mechanical Engineering is designed to develop mechanical engineers who have a solid foundation in mechanical engineering research methods, design, and analytics. Doctoral students are prepared to identify a research area in mechanical engineering and analyze the literature, develop theory, perform experimentation, and develop their own methodologically rigorous research studies. Students complete their studies with a mastery of the fundamental critical thinking and analytic skills and competencies necessary for mechanical engineering. Graduates are well prepared to be engineers and researchers in a range of academic units, non-profit organizations, government agencies, and the private sector.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: Students are able to complete the didactic portion of the Ph.D. degree program through classes offered after 4:30 p.m.

Interdisciplinary Study: Engineering research is highly interdisciplinary and draws on collaboration with members of the faculty and students within the department, as well as with departments in other schools and colleges at Temple University, including the School of Medicine and the College of Science and Technology.

Areas of Specialization: Faculty in the Department of Mechanical Engineering are actively engaged in research in the following areas:
- Biofluidics
- Biomechanics
- Combustion
- Composite Mechanics
- Composite Materials
- Finite Element Analysis
- Fluid Dynamics
- Fluid Mechanics
- Heat and Mass Transfer
- Mechanical Science
- Mechanics of Materials
- Vibration and Controls

In the first term, the student and the ME Graduate Program Director jointly initiate a Plan of Study. This form lists all required courses and the program requirement sequence for the student to follow. The Plan of Study is used to track the student's progress, with an annual annotation and update as the student completes various benchmarks in the Ph.D. program.

Job Prospects: The program is primarily intended for individuals who wish to pursue careers in industry, government, and academia in a highly creative environment. The program is dedicated to producing engineers who will contribute to advancements in mechanical engineering.

Non-Matriculated Student Policy: Up to 9 credits of graduate Engineering coursework may be taken at Temple University on a non-matriculated basis and subsequently applied to the Ph.D. degree upon admission. If the applicant's undergraduate GPA was less than 3.0, a GPA of 3.25 or better is required on this non-matriculated graduate coursework to receive an admissions exception. Consequently, the Mechanical Engineering Graduate Program Director may encourage those with an undergraduate GPA less than 3.0 to take their first three graduate courses prior to making formal application to the Ph.D. program. (See the relevant Graduate School policies on special admission procedures for non-matriculated students: 02.23.11.03 (http://bulletin.temple.edu/graduate/graduate-policies) and 02.24.19 (http://bulletin.temple.edu/graduate/graduate-policies).)

Financing Opportunities: Applicants for full-time study in the Mechanical Engineering Ph.D. program are automatically considered for financial aid. Three forms of financial aid are awarded to Ph.D. students on a competitive basis:

1. Teaching Assistantship (TA): TA awards are made solely by the Department and require the awardee to work 20 hours per week in support of the Department's undergraduate programs. The TA is compensated with a 9-month stipend, a basic health-insurance plan, and 9 credits per term of tuition remission.

2. Research Assistantship (RA): Individual faculty confer RA awards, using their research funds, upon students who appear well-qualified to carry out the research. Typically, this faculty member becomes the RA's doctoral advisor. The RA normally works up to 20 hours per week and is compensated with a stipend, basic health insurance, and tuition remission.

3. Fellowships: Fellowships are awarded by the University in a competitive process that is open to all Ph.D. applicants. The Mechanical Engineering Graduate Program Director nominates exceptional Ph.D. applicants for University Fellowship. Fellows receive 9 to 12 months of stipend, depending on the award; basic health insurance; and 12 credits of tuition remission each Fall and
Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1; August 1 international

Applications are processed on a continual basis. Ordinarily, the applicant is informed of an admissions decision within 4 to 6 weeks of receipt of all supporting application documents.

Both admissions and financial aid award decisions originate in the Department of Mechanical Engineering within the College of Engineering. Applicants who plan to matriculate full-time are automatically considered for financial aid awards so no separate application for financial aid is required. To ensure financial aid consideration for the intended term of study, however, applicants should submit a complete application by January 15 (Fall) and August 1 (Spring).

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from college or research faculty who are familiar with the applicant's competency. If the applicant has an established career in engineering, one of the letters should be provided by the applicant's immediate supervisor. If the applicant has been out of school long enough that relevant academic reference letters appear impractical, s/he should contact the Mechanical Engineering Graduate Program Director to obtain a waiver of this admission requirement.

Coursework Required for Admission Consideration: Students not adequately prepared for advanced courses may be required to take a number of prerequisites. The Department of Mechanical Engineering identifies the needed coursework on a case-by-case basis.

Master's Degree in Discipline/Related Discipline: A master's degree is not required, but preferred.

Bachelor's Degree in Discipline/Related Discipline: A bachelor's degree is required.

University regulations stipulate that the applicant must have earned a 3.0 grade-point average on a 4.0 scale in her/his undergraduate studies, but admission exceptions are made for a variety of circumstances. (See Graduate School Policy 02.23.11.03.) The Mechanical Engineering Graduate Program Director helps the applicant navigate the admission possibilities and assists in the assessment of her/his overall educational qualifications with respect to the departmental requirements for the Ph.D. program.

Statement of Goals: Describe your relevant technical experiences, career goals, and specific research interests in one to two pages.

Standardized Test Scores:

GRE: Required. Scores must be no more than 5 years in advance of the application date. (See Graduate School Policy 02.23.12.) Applicants who require a waiver of the GRE should consult the Mechanical Engineering Graduate Program Director concerning the mechanics and consequences of obtaining an exception.

TOEFL: 79 iBT or 550 PBT minimum. (See Graduate School Policy 02.23.13.01.)

Resume: Current resume required.

Advanced Standing: Both transfer credit for courses taken at another institution while matriculated at Temple and/or advanced standing credit for courses taken within the 5-year period prior to matriculating at Temple may be applied toward the Ph.D.-level didactic coursework requirement. Written approval is required from the student's doctoral advisor, the College's Associate Dean for Graduate Study, and the Graduate School. (See Graduate School Policy 02.24.21.) Up to six credits of advanced standing for courses taken within the 5-year period prior to matriculating at Temple may be used to satisfy the master's-level didactic coursework requirement. Approval of the Mechanical Engineering Graduate Program Director is required. The courses must be equivalent to courses offered at Temple in the student's area of study and research, and the grades must be "B" or better.

Program Requirements

General Program Requirements:

Minimum Number of Credits Required Beyond the Bachelor's: 60, including 45 credits of graduate-level didactic coursework and 15 research credits, including preliminary Ph.D. examination and dissertation research

Minimum Number of Credits Required Beyond the Master's: 30, including 15 credits of graduate-level didactic coursework and 15 research credits, including preliminary Ph.D. examination and dissertation research

Required Courses:

Post-Baccalaureate (for students WITHOUT a master's degree in Mechanical Engineering)

<table>
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<th>Credit Hours</th>
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<td></td>
<td>MEE 9991 Directed Research (8 credits)</td>
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<tr>
<td></td>
<td>MEE 9994 Preliminary Examination Preparation (1 credit)</td>
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<td>MEE 9998 Pre-Dissertation Research (3 credits)</td>
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</tr>
<tr>
<td></td>
<td>MEE 9999 Dissertation Research (3 credits)</td>
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</table>

1 Didactic coursework is typically selected by the student's Doctoral Advisory Committee. It may include up to, but no more than, 3 credits of MEE 9182 Independent Study I, 3 credits of MEE 9282 Independent Study II, or 3 credits of MEE 9991 Directed Research. Furthermore, students who wish to take graduate coursework outside the College of Engineering in one of Temple University's other schools/colleges need to obtain the appropriate written approvals on their Plan of Study form.
Expected distribution of the 15 credits associated with Ph.D.
examinations and dissertation research is shown, although the actual
distribution of credits can vary across courses depending on the
student’s particular circumstances.

**Post-Master’s (for students WITH a master’s degree in Mechanical Engineering)**

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<td>MEE 9994</td>
<td>Preliminary Examination Preparation (1 credit)</td>
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<td>MEE 9999</td>
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</tr>
</tbody>
</table>

**Research Courses 2**

**Total Credit Hours** 30

1 Didactic coursework is typically selected by the student’s Doctoral Advisory Committee. It may include up to, but no more than, 3 credits of MEE 9182 Independent Study I, 3 credits of MEE 9282 Independent Study II, or 3 credits of MEE 9991 Directed Research. Furthermore, students who wish to take graduate coursework outside the College of Engineering in one of Temple University’s other schools/colleges need to obtain the appropriate written approvals on their Plan of Study form.

2 Expected distribution of the 15 credits associated with Ph.D. examinations and dissertation research is shown, although the actual distribution of credits can vary across courses depending on the student’s particular circumstances.

**Culminating Events:**

**Formation of the Doctoral Advisory Committee:**
Selection of a research advisor and formation of a Doctoral Advisory Committee constitute the first steps toward achieving a Ph.D. Selection of a doctoral advisor depends on the student’s level of preparation upon entering the Ph.D. program. The Doctoral Advisory Committee selects the required coursework and guides the progress of the student’s dissertation research:

- Students entering the Ph.D. program with a master’s degree, i.e., those who must complete 30 credits to earn the degree, form their Doctoral Advisory Committee before the end of their second regular term of study.
- Students entering the program with a bachelor’s degree, i.e., those who must complete 60 credits to earn the Ph.D. degree, generally complete most of their coursework before forming their Doctoral Advisory Committee by the end of their fourth regular term in the program.

See Graduate School Policy 02.28.11 (http://bulletin.temple.edu/graduate/graduate-policies) for clarification on the composition of the Doctoral Advisory Committee.

**Preliminary Examination:**
All students generally complete their didactic coursework prior to taking the preliminary examination. (See Graduate School Policy 02.27.11 (http://bulletin.temple.edu/graduate/graduate-policies).) Students in the 30-credit cohort ordinarily take the exam in their third or fourth term. Students in the 60-credit cohort typically take the exam no later than the eighth regular term. Students should register for one credit of MEE 9994 Preliminary Examination Preparation in the term when the exam will be taken.

The preliminary exam tests both the student’s core knowledge in Mechanical Engineering and her/his capacity to synthesize and interpret research communications. The student coordinates the scheduling of the preliminary exam with the ME Graduate Program Director. The ME Graduate Program Director supervises the specific form, content, and frequency of the Mechanical Engineering preliminary exam. A maximum of two opportunities to pass the preliminary exam are available to the student. In each term when the exam is attempted, the student registers for one credit of MEE 9994. Students are dismissed upon the second failure.

**Dissertation Proposal:**
Within a year of passing the preliminary exam, the student must develop a written research proposal and present it in an open College seminar. Ten business days prior to the presentation seminar, the student must schedule the proposal and post an announcement. Immediately following the seminar, the Doctoral Advisory Committee questions the student about the details and strategy of her/his proposed research. Approval is granted for the proposed dissertation research when the “Dissertation Proposal Transmittal for Elevation to Candidacy” form (found in TPortal under the Tools tab within “University Forms”) has been signed off by the entire Doctoral Advisory Committee. After the dissertation proposal has been accepted by the Doctoral Advisory Committee and the Graduate School has received the form, the student is considered to be a doctoral candidate. (See Graduate School Policy 02.28.12 (http://bulletin.temple.edu/graduate/graduate-policies) for more information.)

**Research Credits:**
Students carry out research throughout their studies and register for the corresponding research credits while in the Ph.D. program. However, the type of research credits that a student registers for depends on the student’s progress in the program:

- Prior to passing the preliminary exam, credit hours associated with the student’s research should be registered under MEE 9991 Directed Research.
- After the preliminary exam is passed, but before elevation to candidacy, credit hours associated with the student’s research should be registered under MEE 9998 Pre-Dissertation Research.
- After elevation to candidacy, the student’s research credits should be registered under MEE 9999 Dissertation Research. Students are required to register for at least three credits of MEE 9999 following their elevation to candidacy. (See Graduate School Policy 02.28.15 (http://bulletin.temple.edu/graduate/graduate-policies).)

**Publications:**
Paper writing and presentation at a conference are considered integral to the student’s training. Also, peer review, in part, offers an indication of the quality and novelty of the student’s research. All doctoral students must publish at least two technical papers in refereed journals or refereed conferences. The papers must be based on the student’s dissertation research with the student as the first author.

**Dissertation:**
The dissertation defense is an open University seminar in which the student presents the concepts and results of her/his research. The student must coordinate the formation of the Dissertation Examining Committee in the term that s/he intends to defend her/his dissertation.
This committee consists of the original Doctoral Advisory Committee plus one additional “external” member who is not faculty in the College of Engineering. If the external examiner is not a member of Temple University’s Graduate Faculty, the person must be approved by the Graduate School at least four weeks prior to the dissertation defense.

The dissertation defense is to take place during a regular academic term (i.e., not scheduled during study days, final exams, or the breaks between terms). If the student is to graduate in the same term as the dissertation defense is held, then the defense should take place at least 30 days prior to the end of the term to allow for document revisions.

Three weeks prior to the defense, the members of the committee elect a Chair of the Dissertation Examining Committee. The Chair cannot be the student’s doctoral advisor. The Associate Dean of Research and Graduate Studies must approve the selection. The Chair is identified to the Graduate School in the student’s official request for permission to schedule the defense. (See Graduate School Policy 02.28.15 (http://bulletin.temple.edu/graduate/graduate-policies).) The Chair’s role includes coordination of the proceedings of the defense and completion of all relevant College and Graduate School forms concerning the defense.

The dissertation document should be prepared in a format compliant with University standards. (See Graduate School Policy 02.28.18 (http://bulletin.temple.edu/graduate/graduate-policies).) A copy of the completed dissertation must be provided to the committee at least three weeks before the date of the dissertation defense. Note that any Graduate Faculty may request a copy of the dissertation in advance of the defense and may participate in the defense.

A minimum of two weeks prior to the defense, a public announcement of the defense must be posted. Prior to posting, this announcement must be approved in writing by the Graduate School. (See Graduate School Policy 02.28.16 (http://bulletin.temple.edu/graduate/graduate-policies).)

Immediately following the presentation, the Dissertation Examining Committee closely examines the student’s performance and her/his research. External attendees may participate in this closed portion of the defense with the permission of the Dissertation Examining Committee Chair. However, only members of the Dissertation Examining Committee may actually vote on the decision to accept the dissertation as prepared, accept the dissertation with revisions, or not accept the dissertation. If the dissertation is accepted with revisions, a revised copy of the dissertation must be submitted and approved by the Committee within 30 days of the original defense date.

Contacts

Program Web Address:
https://www.temple.edu/academics/degree-programs/mechanical-engineering-phd-en-me-phd

Department Information:

College of Engineering
ATTN: ME Programs
1947 N. 12th Street
Philadelphia, PA 19122-6077
marshad@temple.edu
215-204-7800

Submission Address for Application Materials:
https://apply.temple.edu/Engineering/

Department Contacts:

Admissions:
Cheryl Sharp
cheryl.sharp@temple.edu
215-204-7800

Graduate Program Director, ME:
Parsaoran Hutapea, Ph.D.
hutapea@temple.edu
215-204-7805

Interim Chairperson, ME:
Shih-Jiun (Jim) Chen, Ph.D.
jsjchen@temple.edu
215-204-4305
Beasley School of Law

Beasley School of Law is committed to excellence in teaching, scholarship, and service. The faculty are dedicated to preparing students to work in the legal profession with the highest level of skill possible, with a firm commitment to principles of professional responsibility, and with a sense of personal obligation to lead and serve the communities in which they live and practice. We are dedicated to our traditional ideal of making opportunities for legal education accessible to talented students who might otherwise not have the opportunity and those who might encounter barriers due to race, creed, gender, disability, sexual orientation, gender identity, age, socioeconomic background, or other personal characteristics.

The Law School opened in 1895 as Temple College's Department of Law under Dean Henry S. Borneman to prepare students for the bar examination. Initially, 46 students enrolled in evening classes. In 1901, the Law School graduated its first class of 16. In 1907, it received accreditation from the Pennsylvania State Board of Bar Examiners.

In 1933, the Law School created a three-year day division – and also received full accreditation and an “A” rating from the Council on Legal Education of the American Bar Association. The Law School was admitted to full membership in the Association of American Law Schools in 1935. By 1943, however, the school was on the brink of closure, having experienced a deep decline in enrollment and attendant severe financial difficulties. Judge Charles Klein worked closely with a group of dedicated alumni and professors to save the school from collapse.

Under the leadership of Dean Peter J. Liacouras in the 1970s and 1980s, the Law School greatly expanded its programs. It prospered under Dean Robert Reinstein, who served from 1989 to 2008. In 1999, to express gratitude for one of the largest gifts ever given to an American law school, the Law School took on the name of its alumnus and benefactor, James E. Beasley. The availability of Beasley scholarships, together with Law Faculty, Conwell, and Public Interest Scholarships, continues to draw a bright, diverse student body.

In 2009 under Dean JoAnne Epps, the Law School was selected by the Robert Wood Johnson Foundation to house its new $19 million Public Health Law Research Program, devoted to funding research focused on the influence of law on population health. That year, the Law School also established the Conwell Community Corps, offering recent graduates full-time, paid four- to six-month positions with Philadelphia area public interest agencies. Dean Epps' leadership during the economic downturn in the years following 2009 drew national attention to Temple Law and to the Dean as an influential voice within legal education.

In 2013, the Sheller Center for Social Justice at Temple Law School was founded to partner with local community advocacy organizations to address civil access to justice issues confronting underserved populations. The Law School seeks to maintain and strengthen a longstanding tradition of accessibility and diversity in order to pursue the goals of excellence in higher education and equal justice under the law.

Programs

Degree Program

- Taxation, M.S. (p. 528)

Professional Certificates

- American Legal Studies

Graduate Faculty

Laura E. Little, Professor, Department of Dean's Office, Beasley School of Law; J.D., Temple University School of Law.

Gregory N. Mandel, Professor, Department of Dean's Office, Beasley School of Law; J.D., Stanford Law School.

Taxation, M.S.

BEASLEY SCHOOL OF LAW (http://www.law.temple.edu)

About the Program

This program is not accepting applications for the 2018-2019 academic year.

1 Active in Japan
College of Liberal Arts

Home to more than two dozen departments and programs, the College of Liberal Arts (CLA) offers students a small liberal arts college experience within a premier research university setting. The College and its departments are at the forefront of research within their various fields.

CLA is home to more than 5,000 students, both graduate and undergraduate, who learn in seminar-style classes, conduct research with award-winning faculty, and gain real-world experience in the field. Our graduates build the essential skills valued in the workplace: critical reading, careful thinking, and effective communicating. Through our graduate degree programs, students in the College of Liberal Arts are equipped to become vanguards of integrated and innovative thinking.

Graduate students and faculty regularly win awards and accolades for their scholarship. To name but a few, recent honors include:

- American Psychological Association (APA) Distinguished Scientific Lecturer Award
- APA Student Research Award in Clinical Psychology
- APA Toy Caldwell-Colbert Award for Distinguished Educator in Clinical Psychology
- Anxiety and Depression Association of America Clinician Trainee Award
- Fulbright Scholarship
- Goldsmith Book Prize from the Shorenstein Center on Media, Politics and Public Policy at Harvard University’s Kennedy School of Government
- Lindau (Germany) Nobel Laureate Meetings invitation
- National Endowment for the Humanities Summer Institute invitation
- National Humanities Center Fellowship
- National Science Foundation Graduate Research Fellowship
- Pew Fellowship
- Society for Research in Adolescence Emerging Scholar Travel Award
- Sundance Film Festival selection

Certificate

- Neuroscience
- Spanish for Health Professions

Graduate Faculty

Zain Abdullah, Associate Professor, Department of Religion, College of Liberal Arts; Ph.D., The New School for Social Research.

Carolyn T. Adams, Professor Emerita, Department of Geography and Urban Studies, College of Liberal Arts; Ph.D., Washington University.

Hiram Aldarondo, Associate Professor, Department of Spanish and Portuguese, College of Liberal Arts; Ph.D., University of Chicago.

Lauren B. Alloy, Professor, Department of Psychology, College of Liberal Arts; Ph.D., University of Pennsylvania.

Rebecca T. Alpert, Professor, Department of Religion, College of Liberal Arts; Ph.D., Temple University.

Nilgün Anadolu-Okur, Professor, Department of Africology and African American Studies, College of Liberal Arts; Ph.D., Hacettepe University.

Kevin T. Arceneaux, Professor, Department of Political Science, College of Liberal Arts; Ph.D., Rice University.

Molefi Kete Asante, Professor, Department of Africology and African American Studies, College of Liberal Arts; Ph.D., University of California Los Angeles.

Kathleen Auerhahn, Associate Professor, Department of Criminal Justice, College of Liberal Arts; Ph.D., University of California Riverside.

James D. Bachmeier, Assistant Professor, Department of Sociology, College of Liberal Arts; Ph.D., University of California Irvine.
Elise Chor, Assistant Professor, Department of Political Science, College of Liberal Arts; Ph.D., University of Chicago.

Bettye Collier-Thomas, Professor, Department of History, College of Liberal Arts; Ph.D., George Washington University.

Gretchen A. Condran, Associate Professor, Department of Sociology, College of Liberal Arts; Ph.D., University of Pennsylvania.

Nyron Crawford, Assistant Professor, Department of Political Science, College of Liberal Arts; Ph.D., The Ohio State University.

Roman A. Cybriwsky, Professor, Department of Geography and Urban Studies, College of Liberal Arts; Ph.D., The Pennsylvania State University.

Heath Fogg Davis, Associate Professor, Department of Political Science, College of Liberal Arts; Ph.D., Princeton University.

Richard E. Deeg, Professor, Department of Political Science, College of Liberal Arts; Ph.D., Massachusetts Institute of Technology.

Kevin J. Delaney, Professor, Department of Sociology, College of Liberal Arts; Ph.D., State University of New York Stony Brook.

Dimitrios I. Diamantaras, Associate Professor, Department of Economics, College of Liberal Arts; Ph.D., University of Rochester.

Deborah A. G. Drabick, Associate Professor, Department of Psychology, College of Liberal Arts; Ph.D., State University of New York Stony Brook.

Douglas Duckworth, Assistant Professor, Department of Religion, College of Liberal Arts; Ph.D., University of Virginia.

Lauren Elman, Associate Professor, Department of Psychology, College of Liberal Arts; Ph.D., University of California Los Angeles.

Jamie J. Fader, Associate Professor, Department of Criminal Justice, College of Liberal Arts; Ph.D., University of Pennsylvania.

Mohsen Fardmanesh, Associate Professor, Department of Economics, College of Liberal Arts; Ph.D., Yale University.

Paul Farnsworth, Professor, Department of Anthropology, College of Liberal Arts; Ph.D., University of California Los Angeles.

Robert L. Fauber Jr., Associate Professor, Department of Psychology, College of Liberal Arts; Ph.D.

Barbara Ferman, Professor, Department of Political Science, College of Liberal Arts; Ph.D., Brandeis University.

K. Orfeo Fioretos, Associate Professor, Department of Political Science, College of Liberal Arts; Ph.D., Columbia University.

Talissa Ford, Associate Professor, Department of English, College of Liberal Arts; Ph.D., University of California Berkeley.

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**Africology and African American Studies, M.A.**

**About the Program**

The mission of the Department of Africology and African American Studies is to provide an intellectual arena in which students learn to critically examine, analyze, and interpret the experiences, traditions, and dynamics of people of African descent. The department’s undergirding philosophy is that the specific historical experiences of a people must be the central axis guiding and informing any effective analysis and interpretation of that people’s past, present, and future. Our graduate program is informed by the African-centered/Afrocentric paradigms in relation to other perspectives in African studies. The program reflects a deeply ingrained commitment to the self-directed study of African peoples and has benefited from a variety of conceptual and political inputs from diverse, but fully committed, faculty participation as well as invaluable contributions from the community. The M.A. program seeks to answer the personal and intellectual aspirations of the student and the particular needs of society that are not satisfied by a baccalaureate degree. Thus, the M.A. provides more specialized study in Africology and African American Studies than the B.A. or B.S. degree and often serves as the terminal degree. It is the goal of the department that graduates with an M.A. in Africology and African American Studies be prepared to engage in a diverse range of intellectual issues that affect the lives of Africans on the continent and in the diaspora. The M.A. also serves as a strong foundation for those who intend to apply to the Ph.D. program.

**Time Limit for Degree Completion:** 3 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The degree program can be completed on a full- or part-time basis.

**Interdisciplinary Study:** Advisors may encourage or require students to take courses in other departments in order to enhance or supplement their program.

**Affiliation(s):** Faculty are affiliated with a variety of professional organizations such as the African Heritage Studies Association (AHSA); African Literature Association; African Studies Association (ASA); American Anthropological Association (AAA); Association of Black Women Historians (ABWH); Association for the Study of African American Life and History (ASALH); Association for the Study of Classical African Civilizations (ASCAC); Black History Advisory Committee of the Pennsylvania Historical and Museum Commission; College Language Association (CLA); Germantown Friends School’s Summerbridge Program; Modern Language Association (MLA); National Council for Black Studies (NCBS); National Council of Teachers of English (NCTE); Pennsylvania Humanities Council; TESOL International Association; and Temple University’s Young Scholars Program.

**Study Abroad:** The department offers study abroad in the Temple University Ghana program. A maximum of 6 credits may be applied toward the master’s degree.

**Accreditation:** This program is accredited by the National Council for Black Studies.

**Areas of Specialization:** Faculty specialize, offer substantial coursework, and mentor in a variety of areas, including:

- African and African American History
- African and African American Literature
- African American Drama
- African American Psychology
- African Civilizations
- African Languages
- Afrocentric Theory
- Caribbean Culture
- Cultural Studies
- Ethnographic Methods
- Gender, Sexuality and Women’s Studies
- Linguistics
- Mass Media
- Narrative Tradition
- Popular Culture
- Research Methods
- Rhetoric and Composition
- Social and Political Thought

**Job Prospects:** Graduates of the M.A. program in Africology and African American Studies find employment in a variety of public and private sector areas, including arts and humanities, business, social services, and teaching. Many secondary school teachers desire to enhance their skills by obtaining an M.A. degree in Africology and African American Studies.

**Non-Matriculated Student Policy:** A non-matriculated student may take a maximum of 9 credits in the department. Those credits may be applied to the degree if the student applies and is admitted to the degree program. Non-matriculated students may not take AAAS 9982 Individual Research in African American Studies.

**Financing Opportunities:** The department offers a limited number of assistantships on a highly competitive basis. The awards usually involve teaching. Teaching Assistants receive a stipend and full tuition remission of up to 9 credits. The applicant must have a grade point average of 3.5 or better and strong letters of recommendation. A resume, writing sample, and/or syllabus are also required with the Teaching Assistantship application, which is obtained from the Graduate Secretary. Normally, awards are given to doctoral students who best meet the criteria.

**Admission Requirements and Deadlines**

**Application Deadline:**

- **Fall:** January 15

Applications for admission are processed together shortly after the deadline date.
2. supporting documents (e.g., syllabi, course descriptions from college catalogs, a letter from the transfer course instructor or department) showing the overlap by which the course covers material from Temple courses.

The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:

Number of Didactic Credits Required Beyond the Baccalaureate: 30

Required Courses:

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<th>Code</th>
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<th>Credit Hours</th>
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<tr>
<td>AAAS 8002</td>
<td>African Civilizations</td>
<td>3</td>
</tr>
<tr>
<td>AAAS 8004</td>
<td>Theories and Methods in African American Studies</td>
<td>3</td>
</tr>
<tr>
<td>AAAS 8009</td>
<td>The Afrocentric Paradigm</td>
<td>3</td>
</tr>
<tr>
<td>Electives:</td>
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</tr>
<tr>
<td>Total Credit Hours</td>
<td></td>
<td>30</td>
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</tbody>
</table>

Culminating Events:

Students have the option of completing the program with either a written comprehensive examination or a thesis.

Comprehensive Examination:

The comprehensive examination is intended to probe the student’s knowledge of content, literature, theory/methodology, and methods in Africology and African American Studies and to test the student’s ability to apply theoretical issues to praxis. It is a proctored, closed book, 6-hour written examination. Students may not use a computer or any other electronic device for the examination unless there is a documented medical necessity.

The M.A. comprehensive exam covers the content, theories, and paradigms of the discipline and/or relevant coursework that students may have taken. Students must take the comprehensive exam after completing all required coursework. The student must answer every question on the examination in order to be evaluated. The evaluators look for content mastery and coherent application of the discipline’s theories and paradigms.

The comprehensive examination is offered twice a year: the first week of April and the first week of November. The hours of the exam are from 9:00 a.m. to 12:00 noon and 1:00 p.m. to 4:00 p.m. The student must schedule her/his examination with the Graduate Secretary after consultation with her/his advisor at least one month in advance of the exam date. In order to arrange an examination date, the student must be sure that her/his record is free of encumbrances that would prevent her/him from meeting University requirements for taking the examination. In addition, the student intending to take the exam must ensure that all of her/his coursework has been completed in the previous term.

The Examination Committee prepares and administers the student’s written M.A. comprehensive exam. Students are advised to choose an Examination Committee at the beginning of their final term. They should consult with their graduate advisor to select the second member of the committee and set the date for the comprehensive exam. The Examination Committee is composed of two Graduate Faculty from the Department of Africology and African American Studies, one of whom
is the major advisor who will write one half of the questions; the other committee member will provide the remaining questions.

The Examination Committee evaluates the answers. The Graduate Director notifies the student of the comprehensive exam results no later than five weeks after completion of the exam. Based on the quality of the examination results, the Examination Committee may make one of the following determinations:

1. Pass: The M.A. student may receive a master's degree when all other departmental and University requirements are met.
2. Fail: The M.A. student is not awarded the M.A. degree, and the student may retake the exam once.
3. Fail/Termination: The M.A. student has failed to pass the written examination a second time and is terminated from graduate status in the department.

Thesis:
Students who choose to complete a thesis are given the opportunity to demonstrate specialized knowledge and their ability to do original research in Africana studies. The student must have completed at least 27 hours of coursework, including the core. S/he then registers for AAAS 9996 Master's Thesis and completes a Master's Thesis Option form, duly signed by the student and the designated advisor. The student must work with the advisor to produce and successfully defend a thesis on an approved topic. The student then meets the requirements for submission of the approved thesis to the Graduate School, as stipulated in the Final Checklist section of the Dissertation and Thesis Handbook at www.temple.edu/grad/documents/Dissertation-and-Thesis-Handbook.pdf.

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Africology and African American Studies, Ph.D.

COLLEGE OF LIBERAL ARTS (https://liberalarts.temple.edu)

About the Program

The mission of the Department of Africology and African American Studies is to provide an intellectual arena in which students learn to critically examine, analyze, and interpret the experiences, traditions, and dynamics of people of African descent. The department's undergirding philosophy is that the specific historical experiences of a people must be the central axis guiding and informing any effective analysis and interpretation of that people's past, present, and future.

Our graduate program is informed by the African-centered/Afrocentric paradigms in relation to other perspectives in Africana studies. The program reflects a deeply ingrained commitment to the self-directed study of African peoples and has benefited from a variety of conceptual and political inputs from diverse, but fully committed, faculty participation as well as invaluable contributions from the community. It is the goal of the department that graduates of our Ph.D. program be prepared to engage in a diverse range of intellectual issues that affect the lives of Africans on the continent and in the diaspora.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: The majority of courses are offered after 4:30 p.m. The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: Advisors may encourage or require students to take courses in other departments in order to enhance their research agenda. A student must obtain prior approval from her/his major advisor for any courses taken outside the Department of Africology and African American Studies that s/he wants to use to fulfill departmental requirements. However, for personal and intellectual enrichment, a student may take as many external courses as desired.

Affiliation(s): Faculty are affiliated with a variety of professional organizations such as the African Heritage Studies Association.
(AHSA); African Literature Association; African Studies Association (ASA); American Anthropological Association (AAA); Association of Black Women Historians (ABWH); Association for the Study of African American Life and History (ASALH); Association for the Study of Classical African Civilizations (ASCAC); Black History Advisory Committee of the Pennsylvania Historical and Museum Commission; College Language Association (CLA); Germantown Friends School’s Summerbridge Program; Modern Language Association (MLA); National Council for Black Studies (NCBS); National Council of Teachers of English (NCTE); Pennsylvania Humanities Council; TESOL International Association; and Temple University’s Young Scholars Program.

Study Abroad: The department offers study abroad in the Temple University Ghana program. A maximum of 6 credits may be applied toward the doctoral degree.

Accreditation: This program is accredited by the National Council for Black Studies.

Areas of Specialization: Applicants to the Ph.D. program should have a clearly articulated research interest that fits within the department’s faculty expertise. Africology and African American Studies is a discipline that draws from diverse academic fields. Most research areas fall into two general categories: the cultural aesthetic, which engages interests in the humanities, particularly history, literature, and the performing arts; and the social behavioral, in which issues may be addressed under the broad domains of sociology, psychology, political science, philosophy, anthropology, and the like. Faculty specialize, offer substantial coursework, and mentor in a variety of areas:

- African and African American History
- African and African American Literature
- African American Drama
- African American Psychology
- African Civilizations
- African Languages
- Afrocentric Theory
- Caribbean Culture
- Cultural Studies
- Ethnographic Methods
- Gender, Sexuality and Women’s Studies
- Linguistics
- Mass Media
- Narrative Tradition
- Popular Culture
- Research Methods
- Rhetoric and Composition
- Social and Political Thought

Job Prospects: Graduates of the Ph.D. program in Africology and African American Studies generally find employment based on their area of concentration in academia, college and university administration, or public and private high school administration; the entertainment industry; the fields of criminal justice, journalism, public relations, or social work; local, state, and federal government; or non-profit organizations.

Non-Matriculated Student Policy: Non-matriculated students who desire to take courses at the Ph.D. level in the Department of Africology and African American Studies must first submit an academic transcript to the department’s Graduate Director for review. The prospective non-matriculated student then receives a letter stating whether or not s/he has been approved to take courses in the department. A maximum of 9 credits may be applied toward a degree if the student later matriculates. Non-matriculated students may not take AAAS 9982 Individual Research in African American Studies.

Financing Opportunities: The department offers a limited number of assistantships on a highly competitive basis. The awards usually involve teaching or assisting one or more faculty with instructional duties. Teaching Assistants receive a stipend and full tuition remission of up to 9 credits. The applicant must have a grade point average of 3.5 or better and strong letters of recommendation. A resume, writing sample, and/or syllabus are also required with the Teaching Assistantship application, which is obtained from the Graduate Secretary. Applications for a Teaching Assistantship should be submitted along with the application for graduate study.

Admission Requirements and Deadlines

Application Deadline:

Fall: January 15

Applications for admission are processed together shortly after the deadline date.

APPLY ONLINE to this graduate program to begin the application process and receive your TUid number.

Next, visit http://cla.temple.edu/interfolio/aaas-phd to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

- Scores for the GRE and TOEFL, if applicable, must be reported directly by ETS to institution code 2906.
- Official electronic transcripts must be sent to afam@temple.edu or the originals mailed to:
  
  Tammey Abner, Graduate Coordinator
  Temple University College of Liberal Arts
  Dept. of Africology and African American Studies
  1115 W. Polett Walk, 810 Gladfelter Hall (025-26)
  Philadelphia, PA 19122-6089

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation are preferred from college/ university professors who have taught or worked with the applicant. Letters from employers with relevant relation to the applicant’s area of study are also useful.

Coursework Required for Admission Consideration: The applicant’s official transcripts must show formal course-based exposure to and education in an area that the Admissions Committee judges to be closely related to Africology and African American Studies.

Master’s Degree in Discipline/Related Discipline: A master’s degree in American Studies, Black Studies, Ethnic Studies, History with a concentration in African or African American Studies, or other content areas with a concentration in African or African American Studies is required.
Bachelor's Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Statement of Goals: Approximately 500 to 1,000 words include the nature of your specific interest in the Ph.D. program in Africology and African American Studies at Temple University; a clearly articulated research goal as it relates to Africology and African American Studies; your future career goals; your academic and research achievements; your community service activities; and an explanation of exceptional circumstances.

Standardized Test Scores: GRE: Required. A combined minimum score of 297 (new test) or 1,000 (old test) on the verbal and quantitative sections is expected.

TOEFL: 100 iBT or 600 PBT minimum

Resume: Current resume required.

Writing Sample: The writing sample should demonstrate the student’s ability to conduct research and to write a scholarly paper relevant to the discipline. The paper should be no more than 20 pages in length and fully referenced according to a professional, scholarly style manual.

Advanced Standing: A student who has earned the M.A. in Africology and African American Studies from Temple University will have all 30 of her/his credits earned credited toward the Ph.D. in Africology and Africana Studies at Temple University.

A student who enters the Ph.D. program with an M.A. in African American Studies from one of the African American Studies master’s-granting programs other than Temple (e.g., Brown University; Clark Atlanta University; Cornell University; Harvard University; Indiana University Bloomington; Michigan State University; Northwestern University; The Ohio State University; University at Albany, SUNY; University of California, Berkeley; University of Massachusetts Amherst; University of Pennsylvania; University of Wisconsin; Yale University) may apply for advanced standing. The maximum number of advanced standing credits awarded is 18.

A student who enters the Ph.D. program with an M.A. degree in an area other than African American Studies may apply to have up to 6 credits considered for credit toward the Ph.D.

### Program Requirements

#### General Program Requirements:

**Number of Credits Required to Earn the Degree:** 51

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAAS 8002</td>
<td>African Civilizations</td>
<td>3</td>
</tr>
<tr>
<td>AAAS 8004</td>
<td>Theories and Methods in African American Studies</td>
<td>3</td>
</tr>
<tr>
<td>AAAS 8008</td>
<td>Ethnographic Methods</td>
<td>3</td>
</tr>
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<td>AAAS 8009</td>
<td>The Afrocentric Paradigm</td>
<td>3</td>
</tr>
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<td>AAAS 9642</td>
<td>Seminar in African American Social Philosophy</td>
<td>3</td>
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<tr>
<td>Electives</td>
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<td>30</td>
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</table>

**Non-Didactic Courses**

<table>
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<tr>
<th>Code</th>
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<tbody>
<tr>
<td>AAAS 9994</td>
<td>Preliminary Examination Preparation</td>
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<thead>
<tr>
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<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>AAAS 9998</td>
<td>Pre-Dissertation Research</td>
<td></td>
</tr>
<tr>
<td>AAAS 9999</td>
<td>Dissertation Research</td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours: 51

#### Language Examination:

The language requirement in Africology and African American Studies is intended to ensure that students have a working familiarity with a language and culture other than English and/or their native language. The Ph.D. student may take the exam at any time, but must pass it before taking the preliminary examination. The student who has English as a second language may use English to fulfill the language requirement. With the recommendation of the advisor, a student may demonstrate competency in Statistics to fulfill the language requirement. The language examination must be administered and graded by a college/university affiliated or certified instructor in the exam language, but may not be from the Department of Africology and African American Studies. The results must be forwarded on letterhead attesting to the examiner’s credentials. Temple University's various language departments offer non-credit language courses and administer examinations for graduate students needing to fulfill the language requirement.

#### Culminating Events:

**Preliminary Examination:**

The preliminary examination is intended to probe the student's knowledge of content, literature, theory/methodology, and methods in Africology and African American Studies and to test the student's ability to apply theoretical issues to praxis. It is a proctored, closed-book, 12-hour written examination administered by the student’s Examination Committee. Students are expected to take the preliminary examination upon completion of the coursework component of the program and upon satisfactory completion of the language requirement.

The student is strongly advised to choose an Examination Committee at the beginning of the term in which the last course is taken. The student should consult with her/his graduate advisor in selecting members of the Examination Committee and in setting the date for the exam. The student should then write to prospective members requesting that they serve on the committee. In the letter, the student should mention the course(s) taken with the professor, and include a copy of her/his statement of research interests and career goals. The faculty member should notify the student's advisor in writing of her/his agreement to serve on the committee.

The subject areas are chosen by the Examination Committee. Particular reading lists or specific materials may be suggested for review before the exam. The student’s major advisor composes six hours of the examination, and the other members compose the balance. Examiners submit exam items directly to the Graduate Director. In order to take the exam, the student must register for AAAS 9994 Preliminary Examination Preparation.

The preliminary examination is offered twice a year: during the first week of April and the first week of November. The hours of the exam are from 9:00 a.m. to 12:00 noon and 1:00 p.m. to 4:00 p.m. The student should notify the Graduate Secretary of her/his intention to take the examination at least one month in advance after consultation with her/his advisor. The Graduate Secretary checks to ensure the student's records are free of encumbrances that would prevent her/him from meeting University requirements for taking the exam. If the student meets all requisites, the Graduate Secretary advises the student's Examination Committee that the exam will take place on the planned date.
Each member of the Examination Committee evaluates her/his exam question(s). The Graduate Director notifies the student of the preliminary exam results no later than five weeks after completion of the exam. Based on the quality of the examination results, the Examination Committee may make one of the following determinations:

1. Pass: The student passes the exam and may now write her/his dissertation proposal.
2. Fail: The student fails the written and/or oral examination, but may retake part or all of the examination once.
3. Fail/Termination: The student fails the written examination for the second time, may not retake the exam, and is dismissed from the program.

Dissertation Proposal:
The formal research proposal, usually at least 30 pages long, presents a plan for increasing the knowledge base in the discipline. The student works in concert with the Chair of the Doctoral Advisory Committee (DAC) to fine-tune the proposal. With the Chair’s approval, the student submits the proposal to the other committee members who make suggestions for changes. When the entire committee is satisfied with the proposal, the student makes an oral presentation and defends the proposal, where other suggestions to strengthen the proposal can be made. After a successful oral defense, the proposal is submitted to the Graduate School, along with the “Dissertation Proposal Transmittal for Elevation to Candidacy” form, found in TUportal under the Tools tab within “University Forms.”

Dissertation:
The dissertation is an original and definitive empirical study that makes a significant contribution to the field of Africology and African American Studies. It should add to the knowledge of one or more areas either by uncovering new information, providing an innovative synthesis of existing information, propounding a new theory, fine-tuning an existing theory, or offering a new interpretation substantiated by data. The length of the dissertation varies but should be in excess of 150 pages.

The DAC guides the candidate’s doctoral research. This committee offers regular advice and expertise as the student collects data, researches, and writes the proposal and dissertation. The DAC must include at least three Graduate Faculty members from Temple University; two of them, including the Chair, must be from the Department of Africology and African American Studies. The DAC may be expanded to include other Temple University faculty (from within or outside the department) and/or doctorally prepared experts from outside the University, provided that a majority of the committee members are Graduate Faculty members.

The function of the Dissertation Examining Committee (DEC) is to evaluate the dissertation and the student's performance in the oral defense to decide whether the candidate passes or fails. All members of the DEC must be physically present for the oral defense. Exceptions must be specifically approved in writing by the Graduate School. The DEC is composed of the DAC plus at least one additional reader who may be a Graduate Faculty member from Temple or another university, but cannot be a member of the Department of Africology and African American Studies.

A student must have an advisor at all times. However, it is possible that as the student's interests develop, s/he may find it desirable to change major advisors and/or advisory committees. The advisee/advisor relationship can be terminated by mutual consent with a note to the Graduate Director signed by both parties or by either party through negotiation with the Graduate Director, who must not at the time be serving as a member of the DAC. When the Graduate Director is also a member of the committee, then another member of the Graduate Faculty, appointed by the Department Chair, should serve as the negotiator between the student and the committee member. The student must complete a “Change of Advisor” form, which may be obtained from the Graduate Secretary. Once a defense date is set, no changes can be made in major advisor or committee membership.

When the Chair of the committee is satisfied with the dissertation draft, s/he advises the student to distribute it to the other members of the committee. When the entire committee is satisfied with the draft, the student and Chair decide on an examination date. At the conclusion of the dissertation defense, the DEC may recommend either that the candidate passes or fails. After the student passes the dissertation defense, certification forms are signed by the committee members and forwarded to the Graduate School. Failure may call for substantial revisions and a new defense.

Students who are preparing to defend their dissertation should confirm a time and date with their DEC and register with the Graduate Secretary. The Graduate Secretary arranges for the room; prepares the appropriate forms; sends copies of the announcement to the Graduate School and departmental Graduate Faculty; and posts the announcement on public bulletin boards. Every dissertation defense must be publicly announced in writing at least 10 working days prior to the defense and must be open to the academic community.

Contacts
Program Web Address:
https://www.cla.temple.edu/africology-and-african-american-studies/graduate/

Department Information:
Dept. of Africology and African American Studies
810 Gladfelter Hall
1115 W. Polett Walk
Philadelphia, PA 19122-6089
afam@temple.edu
215-204-8491

Submission Address for Application Materials:
http://cla.temple.edu/interfolio/aaas-phd

Submission Address for Official Electronic Transcripts:
afam@temple.edu

Submission Address for Official Paper Transcripts:
Tammey Abner, Graduate Coordinator
Temple University Dept. of Africology and African American Studies
1115 W. Polett Walk, 810 Gladfelter Hall (025-26)
Philadelphia, PA 19122-6089

Department Contacts:
Admissions:
Tammey Abner
Anthropology, Ph.D.

COLLEGE OF LIBERAL ARTS (https://liberalarts.temple.edu)

About the Program

Anthropology comprises four subdisciplines, all of which are well represented at Temple: Archaeology, Biological Anthropology, Linguistic Anthropology, and Sociocultural Anthropology. The Department also offers specialized courses and training in the Anthropology of Visual Communication, which draws primarily on Linguistic Anthropology and Sociocultural Anthropology. Doctoral students typically specialize in one of these areas, but interdisciplinary study and research are encouraged.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: Full-time status is strongly encouraged, although some students may be able to complete the degree program on a part-time basis.

Interdisciplinary Study: Anthropology is an inherently interdisciplinary field of study.

Study Abroad: Study abroad is not required, but many students conduct their independent research outside the United States.

Areas of Specialization: Faculty members specialize in such areas as anthropology of visual communication, archaeology of the eastern United States and tropical Americas, historical archaeology, human evolutionary biology, human genetic and physiological variation, language socialization, political economy of language, politics of cultural identity and difference, and sociocultural dynamics of globalization.

Job Prospects: Well over 100 doctoral degrees have been conferred by the Department of Anthropology since 1976. Approximately 45% of doctoral graduates hold full-time faculty positions in colleges or universities, while another 20% hold full-time research positions in academic or non-academic settings. Another 20% hold degree-related policy and administrative positions, and 10% are engaged in other professional activities.

Non-Matriculated Student Policy: Non-matriculated students are generally restricted to the following four courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>ANTH 8003</td>
<td>Approaches in Cultural Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>ANTH 8004</td>
<td>Approaches in Linguistic Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>ANTH 8005</td>
<td>Approaches in Physical Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>ANTH 8006</td>
<td>Approaches in Archaeology</td>
<td>3</td>
</tr>
</tbody>
</table>

Taking coursework as a non-matriculated student does not ensure acceptance into the doctoral program if the student later applies for admission. If a non-matriculated student is later admitted into the doctoral program, a maximum of 9 credits of non-matriculated coursework may be applied toward the degree.

Financing Opportunities: Outstanding applicants are nominated for Temple University's Presidential, University, and Future Faculty Fellowships, which provide four years of tuition remission, a living stipend, and other benefits. Limited numbers of Teaching and Research Assistantships are also available for well-qualified applicants. Students are strongly encouraged to apply for external grants and fellowships.

Admission Requirements and Deadlines

Application Deadline:

Fall: January 5; December 10 international

Before preparing and submitting the application for admission, the applicant should, if at all possible, establish personal contact with at least one faculty member in Temple's Department of Anthropology. This should be a faculty member whose areas of research interest overlap with those of the applicant, and who could potentially serve as her/his faculty advisor.

APPLY ONLINE to this graduate program to begin the application process and receive your TUid number.

Next, visit http://cla.temple.edu/interfolio/anthro-phd to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

- Scores for the GRE and TOEFL, if applicable, must be reported directly by ETS to institution code 2906.
- Official electronic transcripts must be sent to anthgapp@temple.edu or the originals mailed to:

  Yvonne Davis, Graduate Coordinator
  Temple University College of Liberal Arts
  Dept. of Anthropology
  1115 W. Polett Walk, 210 Gladfelter Hall (025-21)
  Philadelphia, PA 19122-6089

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be requested from individuals who are well positioned to evaluate the applicant's academic abilities and accomplishments as well as her/his potential for graduate study.

Master's Degree in Discipline/Related Discipline: A master's degree is not required.
Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree (B.A./B.S.) is required, but it need not be a degree in Anthropology.

Statement of Goals: In approximately 800 to 1,000 words, address your main area(s) of scholarly interest; the specific research topic that you intend to make the focus of your graduate studies; the experiences that have led you to graduate studies in Anthropology; the specific reasons for your interest in Temple's graduate program in Anthropology and the faculty members with whom you envision yourself working most closely; and your career goals.

Standardized Test Scores:
GRE: Required. GRE scores are evaluated in the context of all other materials required for admission.

TOEFL: 79 iBT or 550 PBT minimum

Advanced Standing: After completing the first academic year, a student who entered the doctoral program with a master's degree in Anthropology (or a closely related field) may petition the Department's Graduate Committee for advanced standing. The maximum number of advanced standing credits that can be accepted is 24.

Program Requirements

General Program Requirements:
Number of Credits Required: 48

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 8003</td>
<td>Approaches in Cultural Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>ANTH 8004</td>
<td>Approaches in Linguistic Anthropology</td>
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<td>ANTH 8005</td>
<td>Approaches in Physical Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>ANTH 8006</td>
<td>Approaches in Archaeology</td>
<td>3</td>
</tr>
<tr>
<td>Additional Courses 2</td>
<td></td>
<td>36</td>
</tr>
</tbody>
</table>

Total Credit Hours 48

1 It is preferred that the four core courses be taken by the end of the second year.
2 Students choose 12 additional courses in consultation with their faculty advisor. Some courses may be taken in other departments, as appropriate.

Language Examination: Each doctoral student must pass a written examination of proficiency in a language other than English, preferably by the end of the second year.

Culminating Events:
Dissertation Research Proposal:
Students must have an approved doctoral dissertation research proposal in order to advance to doctoral candidacy. The research proposal must be approved by the student’s advisory committee before s/he takes the doctoral qualifying examinations. Students whose proposed research involves working with human or animal subjects must apply for approval from Temple’s Institutional Review Board (IRB).

Doctoral Qualifying Examinations:
Each student must pass a set of doctoral qualifying examinations before being advanced to doctoral candidacy. These examinations are intended to evaluate the student's knowledge of the field, readiness to perform doctoral research, and preparedness to write a doctoral dissertation. No student may take the qualifying examinations more than twice. The doctoral qualifying examinations should be completed no more than one term after the student finishes his/her coursework.

Advancement to Doctoral Candidacy:
A doctoral student is advanced to doctoral candidacy when s/he has completed all requirements for the doctoral degree except the research, writing, and defense of the doctoral dissertation. These requirements include completing all required coursework, writing an acceptable dissertation research proposal, passing the doctoral qualifying examinations, and fulfilling the language proficiency requirement. A student cannot be advanced to candidacy with a grade of "I" (Incomplete) or "NR" (No Record) on her/his transcript.

Doctoral Dissertation:
The doctoral dissertation must constitute a significant, original, research-based contribution to scholarship in the student’s field of study. It must also conform to the rules set out in the “Dissertation and Thesis Handbook” of the Temple University Graduate School.

Upon advancement to doctoral candidacy, each student must form a Doctoral Advisory Committee. This committee must include at least two Graduate Faculty members from the Department of Anthropology, one of whom serves as the student’s primary academic advisor and as chair of the committee. The committee may also include one or more Graduate Faculty members from other Temple schools/colleges, departments, or programs; faculty members from other universities; and/or other doctorally trained experts. The members of the Doctoral Advisory Committee supervise the student’s doctoral research and the writing of the dissertation.

The completed dissertation is read and evaluated by a Dissertation Examining Committee, which consists of the members of the Doctoral Advisory Committee plus at least one additional Graduate Faculty member from Temple not from the faculty of the student’s home department. A faculty member from another university or other doctorally trained expert may also serve as the additional committee member. In addition to being evaluated and approved by the committee members in its written form, the completed doctoral dissertation must be presented and defended orally by the doctoral candidate.

Contacts
Program Web Address:
https://www.cla.temple.edu/anthropology/graduate/

Department Information:
Department of Anthropology
210 Gladfelter Hall
1115 W. Poletti Walk
Philadelphia, PA 19122-6089
anthgapp@temple.edu
215-204-7577

Submission Address for Application Materials:
http://cla.temple.edu/interfolio/anthro-phd
Submission Address for Official Electronic Transcripts:
anthgapp@temple.edu

Submission Address for Official Paper Transcripts:
Yvonne Davis, Graduate Coordinator
Temple University Dept. of Anthropology
1115 W. Polett Walk, 210 Gladfelter Hall (025-21)
Philadelphia, PA 19122-6089

Department Contacts:
Admissions:
Dr. L. Christie Rockwell
lrockwel@temple.edu
215-204-7577

Director of Graduate Studies:
Dr. L. Christie Rockwell
lrockwel@temple.edu
215-204-7577

Chairperson:
Dr. Paul Farnsworth
paul.farnsworth@temple.edu
215-204-1424

Applied Sociology, P.S.M.
COLLEGE OF LIBERAL ARTS (https://liberalarts.temple.edu)

About the Program
The Professional Science Master's (P.S.M.) degree in Applied Sociology is designed to train research professionals in a wide range of social research methods and data analysis. Students take a set of core courses in research design, quantitative methods, qualitative methods, and research ethics, as well as additional methods courses as electives.

Time Limit for Degree Completion: 3 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: The program encourages students to participate in seminars in other social sciences, including Anthropology; Criminal Justice; Gender, Sexuality and Women’s Studies; Geography and Urban Studies; History; Political Science; Psychology; and Urban Education.

Affiliation(s): The program is affiliated with the American Sociological Association (ASA).

Areas of Specialization: The main areas of study are:
- Data Analysis
- Qualitative Methods
- Research Design
- Research Ethics

- Statistics

Job Prospects: Graduates of the program are typically employed as applied researchers in public and private firms.

Non-Matriculated Student Policy: Students with a bachelor’s degree may take graduate courses in Sociology without enrolling in a Temple University graduate program. A limit of 9 credits of graduate coursework taken prior to admission will be accepted toward a Sociology degree. Non-matriculated students should consult with the Graduate Chair before selecting their coursework if they plan to apply for the degree program.

Financing Opportunities: The Sociology Department does not offer funding opportunities for students enrolled in the P.S.M. program.

Admission Requirements and Deadlines
Application Deadline:
Fall: March 1

Applications are evaluated as they are received throughout the year.

APPLY ONLINE to this graduate program to begin the application process and receive your TUid number.

Next, visit http://cla.temple.edu/interfolio/applied-sociology-psm to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:
- Scores for the GRE and TOEFL, if applicable, must be reported directly by ETS to institution code 2906.
- Official electronic transcripts must be sent to socadmis@temple.edu or the originals mailed to:
  Pamela Smallwood, Graduate Coordinator
  Temple University College of Liberal Arts
  Dept. of Sociology
  1115 W. Polett Walk, 710 Gladfelter Hall (025-23)
  Philadelphia, PA 19122-6089

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members familiar with the applicant's academic competence, if possible.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree is required.

Statement of Goals: Approximately 500 to 1,000 words include your interest in Temple's program; your research goals; your future career goals; and your academic and research achievements.

Standardized Test Scores:
GRE: Required
TOEFL: 100 iBT or 600 PBT minimum

Writing Sample: The writing sample should demonstrate your ability to conduct research and write a scholarly paper. The paper may be on any topic, and no more than 25 pages in length. It must be fully referenced according to a professional and scholarly style.
Resume: Current resume or curriculum vitae required.

Transfer Credit: Graduate coursework in Sociology may be transferred from outside the university, provided that the credits were obtained no more than five years prior to the student's matriculation at Temple and the grades are "B" or better. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 31

Required Courses:

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>SOC 8011</td>
<td>Logic of Inquiry</td>
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</tr>
<tr>
<td>SOC 8211</td>
<td>Inferential and Multivariate Statistics</td>
<td>4</td>
</tr>
<tr>
<td>SOC 8221</td>
<td>Qualitative Methods</td>
<td>3</td>
</tr>
<tr>
<td>SOC 8241</td>
<td>The Ethics of Social Research</td>
<td>3</td>
</tr>
<tr>
<td>SOC 9211</td>
<td>Graduate Data Analysis</td>
<td>3</td>
</tr>
<tr>
<td>SOC 9241</td>
<td>Qualitative Data Analysis</td>
<td>3</td>
</tr>
<tr>
<td>SOC 9381</td>
<td>Internship in Social Research</td>
<td>3</td>
</tr>
<tr>
<td>or SOC 9382</td>
<td>Independent Study Progm</td>
<td></td>
</tr>
</tbody>
</table>

Electives: 9

Total Credit Hours: 31

Culminating Events: This program has no culminating events beyond successful completion of coursework. The P.S.M. degree in Applied Sociology is awarded to any candidate who earns a cumulative grade point average of 3.0 or better in the degree curriculum. Apply for graduation in Self Service Banner by accessing TUportal (https://tuportal5.temple.edu). Note the deadline for submitting the graduation application on the Graduate School's calendar, found at http://bulletin.temple.edu/graduate/academic-calendar/.

Contacts

Program Web Address:
http://www.cla.temple.edu/sociology/graduate/

Department Information:
Dept. of Sociology
710 Gladfelter Hall
1115 W. Polett Walk
Philadelphia, PA 19122-6089
socadmis@temple.edu
215-204-7750

Submission Address for Application Materials:
http://cla.temple.edu/interfolio/applied-sociology-psm

Submission Address for Official Electronic Transcripts:
socadmis@temple.edu

Submission Address for Official Paper Transcripts:
Pamela Smallwood, Graduate Coordinator
Temple University Dept. of Sociology
1115 W. Polett Walk, 710 Gladfelter Hall (025-23)
Philadelphia, PA 19122-6089

Department Contacts:
Admissions:
Pamela Smallwood
poppy@temple.edu
215-204-7750

Graduate Chairperson:
Dustin Kidd, Ph.D.
dkidd@temple.edu

Chairperson:
Kimberly Goyette, Ph.D.
kgoyette@temple.edu
215-204-0134

Creative Writing, M.F.A.

COLLEGE OF LIBERAL ARTS (https://liberalarts.temple.edu)

About the Program

The M.F.A. program in Creative Writing provides fiction writers and poets with an opportunity to develop their craft and extend the horizon of their thinking about the genre in which they work. Workshops and other graduate courses in creative writing are the core of the program. For greater detail, visit www.cla.temple.edu/creative-writing/graduate/.

Additional details are also available by downloading the MFA Information Packet (https://drive.google.com/file/d/1v3P8b05cSRG1t2QU3J-fAIDP70eVpXP/view?usp=sharing).

Time Limit for Degree Completion: 2 years

Campus Location: Main

Full-Time/Part-Time Status: Students may attend part-time and take up to 3 years to complete the degree. Classes are generally held during the day.

Interdisciplinary Study: With permission of the Program Director, students may take two literature, writing, arts, humanities, or social science courses and one elective in departments outside of the English Department.

Study Abroad: Creative Writing students may apply to attend a 6-credit seminar in Art and Culture offered in Rome during the Summer. The seminar entails an intensive program of classwork, field trips, and guest lectures.

Areas of Specialization: The program provides a combination of small, intensive workshops in poetry and fiction, in addition to one-on-one tutorials and craft and special topics courses in Creative Writing. Temple has an excellent faculty of writers in both genres, representing a wide range of aesthetics. To learn more about the faculty, see www.cla.temple.edu/creative-writing/faculty/.
Job Prospects: Graduates have become published authors and have been hired as faculty members at colleges and universities. Others have gone on to become editors in the field of publishing, Web content writers and editors, arts administrators, journalists, librarians, copywriters, grant writers, and primary and secondary school teachers, and have obtained jobs in advertising, communications, marketing, and public relations. Books written by our graduates have been published by trade and small presses and cover all genres. These works have won grants, prizes, and residencies.

Non-Matriculated Student Policy: Writers (or graduate students from other departments at Temple) who wish to take a class in the M.F.A. program on a non-matriculated basis should inquire about the possibility first, emailing creatwrt@temple.edu at least two weeks before the start of the academic term about a specific course. Search Temple’s class schedule (http://www.temple.edu/apply/common/cdcheck.asp) by selecting the term, then “English” and “Graduate.” If there is space and the instructor is amenable, you will most likely be asked for a writing sample and other information for further consideration. Upon admission to the program, non-matriculated students may transfer up to 9 credits for courses in which a grade of “B” or higher was earned.

Financing Opportunities: On average, the M.F.A. program in Creative Writing is able to fund 40% of its students with Teaching Assistantships, University Fellowships, or Future Faculty Fellowships. These funding packages are awarded on a competitive basis. If you are admitted to the Creative Writing program, you will automatically be considered for a teaching assistantship or fellowship.

Admission Requirements and Deadlines

Application Deadline:

Fall: February 15

All materials should be submitted by February 15. If you would like to be considered for a teaching assistantship or fellowship, please submit your materials by December 15. Applications submitted after December 15 will still be considered for a teaching assistantship or fellowship, but those meeting the initial deadline will be prioritized.

APPLY ONLINE to this graduate program to begin the application process and receive your TUid number.

Next, visit http://cla.temple.edu/interfolio/creative-writing-mfa to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

- Scores for the optional GRE and TOEFL, if applicable, must be reported directly by ETS to institution code 2906.
- Official electronic transcripts must be sent to creatwrt@temple.edu or the originals mailed to:
  Creative Writing Program
  Temple University College of Liberal Arts
  1114 W. Polett Walk, 1020 Anderson Hall (022-29)
  Philadelphia, PA 19122-6090

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from professors or work supervisors who can comment on your performance in previous academic, creative, and/or professional roles.

Coursework Required for Admission Consideration: Although not required, we prefer applicants to the M.F.A. program in Creative Writing to hold a bachelor’s degree in English or creative writing or to have taken a significant number of workshops or literature classes as an undergraduate. However, in the past, students without this background have performed well in the program. Therefore, we consider the entire application package in our admission decisions.

Bachelor’s Degree in Discipline/Related Discipline: A baccalaureate degree is required, although it need not be in Creative Writing or English. An applicant must, however, display evidence of talent as a fiction writer or poet. A minimum undergraduate GPA of 3.0 is required for admission.

Statement of Goals: In two to four double-spaced pages, discuss literary influences and models that feed your creative work. We are interested in which writers and texts have been important to you in recent years, as well as what critical approaches, if any, you have found useful. Describe your work or teaching experience. Discuss your aims in attending an M.F.A. program. Mention what attracts you to Temple’s program and whether you are familiar with Philadelphia. Give us a sense of who you are—a more detailed, personal picture than what can be gleaned from transcripts or resumes, especially if you have a non-traditional background or atypical undergraduate record.

Standardized Test Scores:

GRE: Optional. However, if you are taking or have taken the GRE and wish your scores for the general test to be considered, please have them forwarded electronically by ETS to Temple University.

TOEFL: 79 iBT or 550 PBT minimum

Resume: Current resume required.

Writing Sample: Your writing sample is the most crucial single element of your application. Send a packet of writing in one genre only: poetry or fiction. For poetry, submit ten pages. These pages may include shorter poems, longer poems, and/or an excerpt from a longer project. Individual poems should be separated by page breaks, not run together. Poems may be single-spaced or formatted in whatever way you see fit. For fiction, send a total of 15 to 25 double-spaced pages. The pages may include a single story, a series of stories, and/or an excerpt from a longer work. Please identify the excerpt as part of a long story, novella, novel, or hybrid work. For applicants in either genre, if you would like to include a critical essay in addition to the creative sample, please feel free to do so.

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 33

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>4</td>
<td>workshops</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>craft, manuscript tutorial, or special topics courses</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>literature, writing, arts, humanities, or social science courses</td>
<td>6</td>
</tr>
<tr>
<td>1</td>
<td>elective ¹</td>
<td>3</td>
</tr>
</tbody>
</table>

¹ elective
ENG 9995  Master's Project  3

Total Credit Hours  33

1 Those who hold a Teaching Assistantship must take a Practicum in Composition Theory as their elective.

Culminating Events:

Comprehensive Examination:
The comprehensive examination is intended to give students an opportunity to write about the historical and formal context of the literary genre in which they practice. For the exam, they write a 10 to 15 page essay.

The exam is due between the third and fourth terms of the program on the Friday immediately preceding the day on which the Spring term begins. The paper should address issues of craft and aesthetics, but may include other points of reference. The essay should demonstrate a facility for critical discourse and indicate a breadth of knowledge of literary traditions.

Each exam is graded by two members of the Creative Writing Graduate Faculty. Students pass the exam by writing cogent, well-argued, and stylistically polished arguments.

Master's Project:
The master's project is intended to be a work of fiction (at least 100 pages) or a work of poetry (at least 50 pages) that reflects an aesthetically and intellectually sophisticated example of the genre in which the student has worked over the course of the program. The project is due on the second Tuesday in April of the student's fourth term.

The master's project is graded exclusively by members of the Creative Writing Graduate Faculty. Two readers must agree that the project passes. If there is a conflict, the Director of the Graduate Creative Writing Program adjudicates the decision. A project defense is not required.

Contacts

Program Web Address:
http://www.cla.temple.edu/creative-writing/

Department Information:
Creative Writing Program
Anderson Hall, 10th Floor
1114 Polett Walk
Philadelphia, PA 19122-6090
creatwrt@temple.edu
215-204-1796

Submission Address for Application Materials:
http://cla.temple.edu/interfolio/creative-writing-mfa

Submission Address for Official Electronic Transcripts:
creatwrt@temple.edu

Submission Address for Official Paper Transcripts:
Creative Writing Program
1020 Anderson Hall (022-29)
1114 W. Polett Walk
Philadelphia, PA 19122-6090

Department Contacts:
Admissions:
Sharon D. Logan
Program Coordinator
logansd@temple.edu
215-204-1796

Program Director:
Don Lee
donlee@temple.edu
215-204-4854

Chairperson:
Katherine Henry
khenry@temple.edu
215-204-7516

Criminal Justice, M.A.

COLLEGE OF LIBERAL ARTS (https://liberalarts.temple.edu)

About the Program

The M.A. program in Criminal Justice is designed to serve as a first stage of training for students wishing to eventually pursue more advanced graduate work. It also prepares students who will terminate their studies at the master's level. For the latter group, including many engaged in part-time study, the M.A. program is designed to serve students who, upon graduation, will begin or rejoin professional careers in management, administration, or specialist positions in governmental and private criminal and juvenile justice and related agencies. The M.A. degree requires the completion of 30 credits. The curriculum is structured around a set of core requirements that provides substantive grounding in decision-making and operational aspects of the criminal justice system, and a theoretical, legal, policy, and methodological foundation for understanding crime and society.

Time Limit for Degree Completion: 3 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis. Those engaged in part-time study take 8 or fewer credits per term. Students should note that classes are scheduled both during the day and evening as scheduling demands. Students are expected to be available for classes when they are scheduled.

Interdisciplinary Study: The program encourages interdisciplinary coursework, research, and interactions among faculty and students with interests in a wide range of fields. Many of the students entering the Criminal Justice M.A. program have backgrounds in Counseling, Economics, Geography, History, Political Science, Psychology, Social Work, Sociology, and Urban Studies.

Ranking: Criminal Justice programs are not formally ranked, although the Journal of Criminal Justice Education has produced occasional articles on program productivity. Temple University's Criminal Justice program is classed among a number of schools that are acknowledged to
have extremely strong faculty, but have not yet produced a large number of doctoral degrees.

**Areas of Specialization:** Faculty members specialize and offer substantial coursework in a wide array of areas, including:

- Corrections and community corrections
- Court processes
- Crime and the physical/social environment
- Criminal justice policymaking and strategic management
- Criminal law
- Criminological theory
- Discretion in criminal justice
- Issues in policing
- Juvenile justice
- Organized crime
- Qualitative/quantitative research methods
- Restorative justice
- Socialization and deviant behavior
- Statistical analysis
- White collar crime

**Job Prospects:** The M.A. program is primarily dedicated to producing well-trained criminologists, researchers, and criminal justice practitioners. The job market for an individual with a master's degree in the field is extremely good. Some graduate students advance their career while completing coursework, while others are hired at the completion of their degree. Graduates of the M.A. program have obtained positions in the criminal justice system, including criminal or juvenile courts, institutional and community-based agencies, and state and federal police agencies. Careers are also possible in government, planning, public administration, research, teaching, or community activism.

**Non-Matriculated Student Policy:** Non-matriculated students are eligible to take some of the graduate courses offered in Criminal Justice. If accepted into the program, up to 9 credits may be applied toward the degree program.

**Financing Opportunities:** Students in the M.A. program cannot be awarded Teaching Assistantships. Occasionally, however, funded research opportunities become available for which M.A. students are eligible.

**Admission Requirements and Deadlines**

**Application Deadline:**

*Fall:* March 1
*Spring:* November 1

Late applications may be considered for admission.

**APPLY ONLINE to this graduate program** to begin the application process and receive your TUid number.

Next, visit http://cla.temple.edu/interfolio/criminal-justice-ma to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

- Scores for the GRE and TOEFL, if applicable, must be reported directly by ETS to institution code 2906.
- Official electronic transcripts must be sent to cjgrad@temple.edu or the originals mailed to:
  
  Jenise Ly, Graduate Coordinator
  Temple University College of Liberal Arts
  Dept. of Criminal Justice
  1115 W. Polett Walk, 522 Gladfelter Hall (025-02)
  Philadelphia, PA 19122-6089

**Letters of Reference:**

**Number Required:** 3

**From Whom:** Letters of recommendation should be obtained from college/university faculty members familiar with the demands of a graduate program.

**Bachelor's Degree in Discipline/Related Discipline:** A baccalaureate degree in Criminology/Criminal Justice, Geography, History, Law, Political Science, Social Work, Sociology, or a related field is required.

**Statement of Goals:** In approximately 500 to 1,000 words, discuss your specific interest in Temple's program, your research goals, your future career goals, and your academic and research achievements.

**Standardized Test Scores:**

**GRE:** Required. The average scores for accepted M.A. students are in the 60-70% range on the verbal and quantitative sections.

**TOEFL:** 79 iBT or 550 PBT minimum

**Resume:** Current resume required.

**Writing Sample:** The writing sample should demonstrate your ability to research and write a scholarly paper. The paper should not be too lengthy (up to 10 pages is preferable) and should be fully referenced according to a professional, scholarly style manual. Although it need not be related directly to Criminal Justice, it should reflect your ability to prepare a social science paper.

**Transfer Credit:** Students with graduate course credits from other accredited institutions should petition the Graduate Chair to determine the acceptance and transferability of coursework. Grades must be of "B" quality or better. The maximum number of credits a student may transfer is 6.

**Program Requirements**

**General Program Requirements:**

**Number of Credits Required Beyond the Baccalaureate:** 30

**Required Courses:**

**Thesis Track**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CJ 8101</td>
<td>Decision Making in Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>CJ 8102</td>
<td>Research Methods in Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>CJ 8106</td>
<td>Theories of Crime and Deviance</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

**Non-Didactic Courses**
Students must earn 6 credits in Criminal Justice electives. For the remaining 9 elective credits, additional coursework can be taken in Criminal Justice or outside the department.

### Non-Thesis Track

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CJ 8101</td>
<td>Decision Making in Criminal Justice</td>
<td>3</td>
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<tr>
<td>CJ 8102</td>
<td>Research Methods in Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>CJ 8106</td>
<td>Theories of Crime and Deviance</td>
<td>3</td>
</tr>
</tbody>
</table>

**Electives**

Students must earn 9 credits in Criminal Justice electives. For the remaining 12 elective credits, additional coursework can be taken in Criminal Justice or outside the department.

### Culminating Events:

**Thesis:**
For the Thesis Track, the thesis must be based on an original research project.

Note that the Non-Thesis Track has no culminating event.

### Contacts

**Program Web Address:**
https://www.cla.temple.edu/criminal-justice/graduate/

**Department Information:**
Dept. of Criminal Justice  
522 Gladfelter Hall  
1115 W. Polett Walk  
Philadelphia, PA 19122-6089  
cjgrad@temple.edu  
215-204-9028

**Submission Address for Application Materials:**
http://cla.temple.edu/interfolio/criminal-justice-

**Submission Address for Official Electronic Transcripts:**
cjgrad@temple.edu

**Submission Address for Official Paper Transcripts:**
Jenise Ly, Graduate Coordinator  
Temple University Dept. of Criminal Justice  
1115 W. Polett Walk, 522 Gladfelter Hall (025-02)  
Philadelphia, PA 19122-6089

### Department Contacts:

**Admissions:**
Jenise Ly  
jenise.ly@temple.edu  
215-204-9028

**Graduate Chairperson:**
Dr. Elizabeth Groff  
groff@temple.edu  
215-204-5164

**Chairperson:**
Dr. Cathy Rosen  
crosen@temple.edu  
215-204-1089

### Criminal Justice, Ph.D.

**COLLEGE OF LIBERAL ARTS** (https://liberalarts.temple.edu)

**About the Program**

The Ph.D. degree program in Criminal Justice is designed to produce criminal justice scholars who will lead the field in academia, private and governmental research agencies, and policy-level positions in criminal justice and related organizations. The Ph.D. degree requires the completion of a minimum of 48 hours of coursework post-baccalaureate, although students may take additional courses to prepare themselves for subsequent stages of their post-graduate career.

**Time Limit for Degree Completion:** 7 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** Doctoral students are expected to be enrolled full-time. Part-time students are accepted in exceptional circumstances. Students should note that classes are scheduled both during the day and evening as scheduling demands. Students are expected to be available for classes when they are scheduled.

**Interdisciplinary Study:** The program encourages interdisciplinary coursework, research, and interactions among faculty and students with interests in a wide range of fields. Many of the students entering the Criminal Justice Ph.D. program have backgrounds in Counseling, Economics, Geography, History, Political Science, Psychology, Social Work, Sociology, and Urban Studies.

**Ranking:** Temple University’s Ph.D. program in Criminal Justice is ranked in the top 10 programs by *U.S. News & World Report*. In addition, *The Chronicle of Higher Education’s* Faculty Scholarly Productivity Index identifies the faculty of the Criminal Justice department as the sixth most productive among all doctoral programs in Criminology and Criminal Justice.

**Areas of Specialization:** Faculty members specialize and offer substantial coursework in a wide array of areas, including:

- Corrections and community corrections
- Court processes
- Crime and the physical/social environment
- Criminal justice policymaking and strategic management
- Criminal law
- Criminological theory


- Discretion in criminal justice
- Issues in policing
- Juvenile justice
- Organized crime
- Qualitative/quantitative research methods
- Restorative justice
- Socialization and deviant behavior
- Statistical analysis
- White collar crime

**Job Prospects:** The Ph.D. program is primarily dedicated to producing well-trained criminologists, researchers, and criminal justice practitioners. The job market for an individual with a Ph.D. degree in the field is extremely good. Most of our graduates enter the academy as university professors while others advance their careers in research for government or private agencies.

**Non-Matriculated Student Policy:** Non-matriculated students are eligible to take some of the graduate courses offered in Criminal Justice. If accepted into the program, up to 9 credits may be applied toward the degree program. For some courses, permission of the instructor is required before registration by non-matriculated students can occur.

**Financing Opportunities:** The principal duties of a Teaching Assistant include assisting faculty members in classroom (field, observatory) instruction, conducting tutorials and discussion sections, and grading quizzes. Research Assistants are expected to devote 20 hours per week on average to research obligations. They are assigned to a faculty member or principal investigator investigating a specific research project. The appropriate subjects are determined by consultation between the student and the student's research and academic advisors. Both Teaching and Research Assistantships carry a stipend and full tuition remission for up to 9 credits per term. Applications should include:

1. a statement of previous teaching and/or research experience, areas of interest, and future goals;
2. unofficial transcripts; and
3. a curriculum vitae.

The Department makes assistantship offers in late Spring of each year.

**Admission Requirements and Deadlines**

**Application Deadline:**

Fall: December 15; November 30 international

Applications are evaluated from the end of October until the deadline. Late applications may be considered for admission.

APPLY ONLINE to this graduate program to begin the application process and receive your TUid number.

Next, visit http://cla.temple.edu/interfolio/criminal-justice-phd to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

- Scores for the GRE and TOEFL, if applicable, must be reported directly by ETS to institution code 2906.
- Official electronic transcripts must be sent to cjgrad@temple.edu or the originals mailed to:

**Letters of Reference:**

Number Required: 3

From Whom: Ideally, the letters should be obtained from college/university faculty members familiar with the applicant's academic competence. Letters from employers and other non-academic assessors are accepted but generally carry far less weight.

**Master's Degree in Discipline/Related Discipline:** A master's degree is not required.

**Bachelor's Degree in Discipline/Related Discipline:** A baccalaureate degree in Criminology/Criminal Justice, Geography, History, Law, Political Science, Social Work, Sociology, or a related field is required.

**Statement of Goals:** In approximately 500 to 1,000 words, discuss your specific interest in Temple's program, your research goals and how they relate to Temple's program, your future career goals, and your academic and research achievements.

**Standardized Test Scores:**

GRE: Required. The minimum acceptable scores are 153 verbal and 144 quantitative. Applicants with scores just below are considered if other aspects of their application are especially strong.

TOEFL: 79 iBT or 550 PBT minimum

**Resume:** Current resume required.

**Writing Sample:** The writing sample should demonstrate your ability to research and write a scholarly paper. The paper should not be too lengthy (up to 10 pages is preferable) and should be fully referenced according to a professional, scholarly style manual. Although it need not be related directly to Criminal Justice, it should reflect your ability to prepare a social science paper.

**Advanced Standing:** To request advanced standing, an applicant must supply an official transcript from her/his prior graduate institution to the Graduate Chair. The transcript must clearly show "M.A. awarded" and on what date. The Graduate Committee reviews the request. Only grades of "B" or better are accepted. If the request is granted, the student receives advanced standing and is awarded a maximum of 30 credits.

**Program Requirements**

**General Program Requirements:**

Number of Credits Required Beyond the Master's: 18
Number of Credits Required Beyond the Baccalaureate: 48

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CJ 8101</td>
<td>Decision Making in Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>CJ 8102</td>
<td>Research Methods in Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>CJ 8104</td>
<td>Law and Social Order</td>
<td>3</td>
</tr>
</tbody>
</table>
Theories of Crime and Deviance

Doctoral Dissertation Research

Dissertation: provides confirmation of the time, date, and room.

Students who are preparing to defend their prospectus should arrange some dates/times for the defense with the Doctoral Advisory Committee. The student should then inform the Graduate Chair of these dates/times and confirm the final date/time selected. Finally, the Graduate Chair provides confirmation of the time, date, and room.

Culminating Events:

Comprehensive Examinations:
Two comprehensive examinations must be passed. One is in “Justice,” which has the Criminal Justice system as its focus. The second is in “Crime,” which has theory as its focus. The purpose of the comprehensive exams is to demonstrate critical and interpretive knowledge in specialized areas of both the Criminal Justice system and Criminal Justice theory.

Prospectus Defense:
The prospectus defense evaluates the student’s ability to apply specific research and/or analytic methods to the questions addressed in the prospectus. The defense occurs within several weeks of the student's advisor confirming, in writing to the Graduate Chair, that the student is ready to defend her/his prospectus.

Ideally, the prospectus defense should be completed within one academic year of the comprehensive examinations. The prospectus defense consists of a short (30-40 minute) presentation of the prospectus by the student to faculty and graduate students. Following the presentation, the Graduate Chair mediates a question-and-answer session between the student and audience. The members of the student's Doctoral Advisory Committee normally pose the initial questions at the defense. When these have been exhausted, other audience members are asked to put forth any questions they have for the student. The defense is scheduled to last no longer than two hours.

The Doctoral Advisory Committee must evaluate the quality of the presentation and of the answers provided during the question-and-answer session. Committee members look for evidence of a breadth and depth of understanding of specific substantive and methodological areas. In addition, they gauge the student's ability to utilize her/his knowledge to address the questions posed during the defense. Each member votes to Pass or Fail the student. Members can also vote to pass pending the completion of specified changes to the prospectus. In order to pass, a majority of the committee members must agree that the defense has been satisfactorily completed.

Students who are preparing to defend their prospectus should arrange some dates/times for the defense with the Doctoral Advisory Committee. The student should then inform the Graduate Chair of these dates/times and confirm the final date/time selected. Finally, the Graduate Chair provides confirmation of the time, date, and room.

Dissertation:
The dissertation is an original empirical study that makes a significant contribution to the field of Criminal Justice. It should expand the existing database and demonstrate the student’s knowledge of both research methods and a mastery of her/his primary area of interest. Dissertations should be rigorously investigated; uphold the ethics and standards of the field of Criminal Justice; demonstrate an understanding of the relationship between the primary area of interest and the broader field of Criminal Justice; and be prepared for publication in a professional journal.

The Doctoral Advisory Committee is formed to oversee the student’s doctoral research and is comprised of at least three Temple Graduate Faculty members. Two members, including the Chair, must be from the Department of Criminal Justice. Committee compositions must be approved by the Department’s Graduate Committee. The Chair is responsible for overseeing and guiding the student’s progress, coordinating the responses of the Committee members, and informing the student of her/his academic progress.

The Dissertation Examining Committee evaluates the student’s dissertation and oral defense. This committee is comprised of the Doctoral Advisory Committee and at least one additional Graduate Faculty member from outside the Department of Criminal Justice. The Outside Examiner should be identified no later than the beginning of the term in which the student will defend the dissertation. The Dissertation Examining Committee evaluates the student’s ability to express verbally her/his research question, methodological approach, primary findings, and implications. The Committee votes to Pass or Fail the dissertation and the defense at the conclusion of the public presentation.

If a student needs to change a member of a Committee, the new member must be approved by the Department’s Graduate Committee and registered with the Graduate Secretary and the Graduate School.

Students who are preparing to defend their dissertation should confirm a time and date with their Doctoral Advisory Committee and register with the Graduate Secretary at least 30 days before the defense is to be scheduled. The Graduate Secretary arranges the time, date, and room and forwards to the student the appropriate paperwork. After the Graduate Secretary has arranged the time, date, and room for the defense, the student must send the Graduate School a completed “Announcement of Dissertation Defense” form, found in TPortal under the Tools tab within “University Forms,” at least 10 working days before the defense. The department posts flyers announcing the defense.

Contacts

Program Web Address:
https://www.cla.temple.edu/criminal-justice/graduate/

Department Information:
Dept. of Criminal Justice
522 Gladfelter Hall
1115 W. Poletti Walk
Philadelphia, PA 19122-6089
cjgrad@temple.edu
215-204-9028

Submission Address for Application Materials:
http://cla.temple.edu/interfolio/criminal-justice-phd
Submission Address for Official Electronic Transcripts:
cjgrad@temple.edu

Submission Address for Official Paper Transcripts:
Jenise Ly, Graduate Coordinator
Temple University Dept. of Criminal Justice
1115 W. Polett Walk, 522 Gladfelter Hall (025-02)
Philadelphia, PA 19122-6089

Department Contacts:
Admissions:
Jenise Ly
jenise.ly@temple.edu
215-204-9028

Graduate Chairperson:
Dr. Elizabeth Groff
groff@temple.edu
215-204-5164

Chairperson:
Dr. Cathy Rosen
crosen@temple.edu
215-204-1089

Decision Neuroscience, Ph.D.

COLLEGE OF LIBERAL ARTS (https://liberalarts.temple.edu)

About the Program

The field of decision neuroscience provides new insights into the mechanisms that underlie a wide range of economic and social phenomena, from risky choice and consumer behavior to altruism and cooperation. It is also a primary example of truly interdisciplinary research, with people from such diverse fields as business administration, economics, engineering, neuroscience, philosophy, physics, and psychology working together to advance knowledge of mechanisms underlying decision making and decision preferences.

The interdisciplinary Ph.D. program in Decision Neuroscience in the Department of Psychology in the College of Liberal Arts is a collaborative effort with the Fox School of Business and Management. Temple University's Psychology Department has long been a leader in brain and cognitive science research. Similarly, through the efforts of its Center for Neural Decision Making (CNDM), Fox School has been at the forefront of the field of decision neuroscience over the past six years.

Students enrolled in the program gain a thorough understanding of the intellectual issues in the rapidly growing field of decision neuroscience and its subfields of neuroeconomics and neuromarketing. The program has the unique vision of integrating scientific findings with everyday real-world problems. It is designed for students who want to work at the intersection of neuroscience and business.

Time Limit for Degree Completion: 7 years

Full-Time/Part-Time Status: Full-time study is required.

Interdisciplinary Study: The program is inherently interdisciplinary.

Ranking: Over the years, the Department of Psychology's Ph.D. program has been consistently ranked among the very best by all evaluating agencies.

Job Prospects: Graduates of the program are prepared to seek tenure-track appointments either in business schools or psychology departments, depending on their approach to the program's curriculum.

Non-Matriculated Student Policy: Non-matriculated students are not permitted to take 8000-level Psychology courses.

Financing Opportunities: Both Teaching and Research Assistantships carry a stipend, full tuition remission (up to 12 credits per term depending on year and specialization), and health insurance benefits. The principal duties of a Teaching Assistant (TA) include assisting faculty members in classroom (field and observational) instruction, conducting tutorials and discussion sections, and grading quizzes. A Research Assistant (RA) is expected to devote 20 hours per week on average to research obligations. An RA is assigned to a faculty member or principal investigator who is working on a specific research project. The appropriate subjects are determined by consultation between the student and the student's research and academic advisors.

Admission Requirements and Deadlines

Application Deadline:

Fall: December 1

Applications are not evaluated until after the deadline has passed.

APPLY ONLINE to this graduate program to begin the application process and receive your TUid number.

Next, visit http://cla.temple.edu/interfolio/decision-neuroscience-phd to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

- Scores for the GRE and TOEFL, if applicable, must be reported directly by ETS to institution code 2906.
- Official electronic transcripts must be sent to lmcduffie@temple.edu or the originals mailed to:
  Lauren McDuffie, Graduate Coordinator
  Temple University College of Liberal Arts
  Neuroscience Programs
  1701 N. 13th Street, 659 Weiss Hall (265-67)
  Philadelphia, PA 19122-6085

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members familiar with the applicant's academic competence.

Master's Degree in Discipline/Related Discipline: A master's degree is not required.
Bachelor's Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Statement of Goals: In approximately 500 to 1,000 words, state your interest in Temple’s program, your research goals, your future career goals, and your academic and research achievements.

Standardized Test Scores:
GRE: Required. Minimum scores are 153 (new test) or 500 (old test) verbal; 151 (new test) or 650 (old test) quantitative; and 304 (new test) or 1150 (old test) total GRE.

TOEFL: 105 iBT or 620 PBT minimum

Resume: Current resume required.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 42

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td>Core Courses</td>
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</tr>
<tr>
<td>BA 9813</td>
<td>Problem Solving using Quantitative Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 9090</td>
<td>Sem-Sel Topics in Mktg 1</td>
<td>3</td>
</tr>
<tr>
<td>PSY 8310</td>
<td>Topical Seminar in Cognitive Psychology (2 courses)</td>
<td>6</td>
</tr>
<tr>
<td>Course in decision neuroscience</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Proseminar in decision neuroscience</td>
<td></td>
<td>3</td>
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<tr>
<td>Methods Electives</td>
<td></td>
<td>6</td>
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<td>Select two from the following:</td>
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</tr>
<tr>
<td>BA 9806</td>
<td>Integrative Perspectives on Business Knowledge</td>
<td></td>
</tr>
<tr>
<td>BA 9814</td>
<td>Advanced Quantitative Research Methods</td>
<td></td>
</tr>
<tr>
<td>BA 9815</td>
<td>Problem Solving using Qualitative Research Methods</td>
<td></td>
</tr>
<tr>
<td>PSY 8033</td>
<td>Hierarchical Linear Modeling</td>
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<td>Other Electives</td>
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<td>12</td>
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<td>Select four from the following:</td>
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<tr>
<td>MKTG 9001</td>
<td>Sem-Marketing Theory Dev</td>
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</tr>
<tr>
<td>MKTG 9002</td>
<td>Sem-Behavior Res-Mktg</td>
<td></td>
</tr>
<tr>
<td>MKTG 9003</td>
<td>Sem-Quant Research-Mktg</td>
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<td>PSY 8310</td>
<td>Topical Seminar in Cognitive Psychology</td>
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</tr>
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<td>PSY 8312</td>
<td>Core Course in Cognitive Psychology</td>
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<tr>
<td>PSY 8712</td>
<td>Core Course in Behavioral Neuroscience</td>
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<tr>
<td>Non-Didactic Courses</td>
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<td></td>
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<tr>
<td>PSY 9994</td>
<td>Preliminary Examination Preparation</td>
<td>1</td>
</tr>
<tr>
<td>PSY 9998</td>
<td>Pre-Dissertation Research</td>
<td>2</td>
</tr>
<tr>
<td>PSY 9999</td>
<td>Ph.D. Dissertation Research</td>
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<tr>
<td>Total Credit Hours</td>
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</tr>
</tbody>
</table>

1 The select topic for this course is an introduction to research in judgment and decision making and their applications.

2 PSY 8310 Topical Seminar in Cognitive Psychology is taken twice for credit. One course topic provides an introduction to the biological bases of higher brain function, including attention, consciousness, emotion, executive functions, language, memory, and perception. The other provides an overview of the use of functional magnetic resonance imaging (FMRI) in the investigation of human sensory, motor, and cognitive function.

Additional Requirements:
Research Rotations:
In addition to undertaking specially designed interdisciplinary coursework, students complete research rotations during the first year of study that prepare them for independent research in the field of decision neuroscience. Students are required to complete two laboratory rotations in their first year (Fall and Spring) that would ideally be in different subfields with different mentors. Students also have the option to complete a third rotation during the Summer if they require additional exposure.

Research rotations are designed to give students a wide range of knowledge in the area of decision neuroscience by being engaged in the research of an assigned lab. When rotating through a lab (or with a research mentor), students are often paired with a senior lab member (e.g., a postdoctoral fellow or senior graduate student) to work on an ongoing research project. In some cases, they may be given a new project based on their knowledge and skill levels. Students are not, however, expected to complete a full project within an academic term.

Research Meetings:
Students are expected to attend research meetings and to be fully engaged in the research culture.

Publications:
It is expected that students will write, submit, and publish articles.

Grant Proposals:
Students are expected to prepare a grant proposal for submission to a government funding agency. Eligible students are also required to write and submit a National Research Service Award (NRSA) proposal at the end of their third year. International students who are not eligible for federal grants are encouraged to work on submissions with faculty members.

Culminating Events:
Comprehensive Examination:
The comprehensive examination is taken at the end of the second year of study. Each student must propose and defend a major area paper in her/his proposed field of research. Upon passing the exam, students choose a faculty member from either the College of Liberal Arts or Fox School as their primary mentor.

Dissertation:
The doctoral dissertation is an original empirical study that makes a significant contribution to the field. It should expand the existing knowledge and demonstrate both the student's grasp of research methods and a mastery of her/his primary area of interest. Dissertations should be rigorously investigated; uphold the ethics and standards of the field; demonstrate an understanding of the relationship between the primary area of interest and the broader field of psychology; and be prepared for publication in a professional journal.

The Dissertation Examining Committee evaluates the student's dissertation and oral defense, including the student's ability to express verbally her/his research question, methodological approach, primary
findings, and implications. The Dissertation Examining Committee consists of the Doctoral Advisory Committee plus at least three additional doctorally prepared individuals. The majority of the individuals on the Committee must be members of the Temple University Graduate Faculty. The Dissertation Examining Committee votes to pass or fail the dissertation and the defense at the conclusion of the public presentation.

If a student needs to change a member of either the Doctoral Advisory Committee or the Dissertation Examining Committee, the new member must be approved by the Departmental Chair and registered with the department's Graduate Secretary and the Graduate School.

Students who are preparing to defend their dissertation should confirm a time and date with their Dissertation Examining Committee and register with the Graduate Secretary at least 15 days before the defense is to be scheduled. The Graduate Secretary arranges the time, date, and room within two working days, and forwards to the student the appropriate forms.

After the Graduate Secretary has arranged the time, date, and room for the defense, the student must send to the Graduate School a completed "Announcement of Dissertation Defense" form, found in TUportal under the Tools tab within "University Forms," at least 10 working days before the defense. The Department posts announcements of the defense, and the Graduate School lists the defense on its website.

Contacts

Department Web Address:
http://www.cla.temple.edu/psychology/graduate/

Department Information:
Dept. of Psychology
659 Weiss Hall
1701 N. 13th Street
Philadelphia, PA 19122-6085
deborah.drabick@temple.edu
215-204-7321

Submission Address for Application Materials:
http://cla.temple.edu/interfolio/decision-neuroscience-phd

Submission Address for Official Electronic Transcripts:
lmcduffie@temple.edu

Submission Address for Official Paper Transcripts:
Lauren McDuffie, Graduate Coordinator
Neuroscience Programs
1701 N. 13th Street, 659 Weiss Hall (265-67)
Philadelphia, PA 19122-6085

Department Contacts:
Director of Graduate Studies:
Dr. Deborah Drabick
deborah.drabick@temple.edu
215-204-0957

Chairperson:
Dr. Peter Marshall
peter.marshall@temple.edu
215-204-7360

Economics, M.A.

COLLEGE OF LIBERAL ARTS (https://liberalarts.temple.edu)

About the Program

The M.A. in Economics prepares the student to understand contemporary economic theory and its application to problems arising in industry, business, and government. The program gives the student an opportunity to specialize in a specific area of economics or follow a general course of study.

Time Limit for Degree Completion: 3 years, although a student whose advisor certifies that s/he is making satisfactory progress may apply for an extension of her/his program for up to a maximum of 5 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered after 5:30 p.m. The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: An interdisciplinary track is available with the Department of Finance in the Fox School of Business and Management.

Areas of Specialization: The program allows specialization in several areas:

1. Econometrics
2. Health Economics
3. International Economics
4. Labor
5. Quantitative Macroeconomics

Job Prospects: The program is primarily dedicated to producing well-trained researchers and managers in the field of Economics. Many students go on to enter Ph.D. programs.

Non-Matriculated Student Policy: Students may enroll in up to 9 credits with the permission of the Graduate Director. Minimum undergraduate GPA requirements apply.

Financing Opportunities: Financial aid may be available to students through the University. For information on financial aid, please contact Student Financial Services at 215-204-2244.

Admission Requirements and Deadlines

Application Deadline:
Fall: March 1
Spring: November 1

Although students are admitted in both the Fall and Spring terms, applicants without previous graduate coursework in Economics are advised to apply for the Fall. Spring admission will only be granted when the student has taken the typical Fall term classes as a non-matriculated student. Late applications may be considered for admission.
**Temple University Graduate Bulletin 2018-2019**

**APPLY ONLINE** to this graduate program to begin the application process and receive your TUid number.

Next, visit http://cla.temple.edu/interfolio/economics-ma to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

- Scores for the GRE and TOEFL, if applicable, must be reported directly by ETS to institution code 2906.
- Official electronic transcripts must be sent to econgrad@temple.edu (linda.wyatt@temple.edu) or the originals mailed to:

  Linda Wyatt, Graduate Coordinator  
  Temple University College of Liberal Arts  
  Dept. of Economics  
  1301 Cecil B. Moore Avenue, 822 Ritter Hall Annex (004-00)  
  Philadelphia, PA 19122-6091

**Letters of Reference:**

**Number Required:** 3

*From Whom:* Letters of recommendation should be obtained from college/university faculty members familiar with the applicant's academic competence and/or immediate work supervisor.

**Coursework Required for Admission Consideration:** Details on appropriate background are available from the department upon request.

**Bachelor’s Degree in Discipline/Related Discipline:** A baccalaureate degree is required. Details on appropriate disciplines are available from the department.

**Statement of Goals:** Approximately 500 to 1,000 words include your specific interest in Temple’s program, your research goals, your future career goals, and your academic and research achievements.

**Standardized Test Scores:**

- GRE: Required. Scores are typically in the 60th to 99th percentile on the quantitative section and in the 45th to 99th percentile on the verbal section.
- TOEFL: 79 iBT or 550 PBT minimum

**Transfer Credit:** A grade of "B" or better must have been earned in a peer M.A. program course in order for the credit to transfer. The maximum number of credits a student may transfer is 6.

**Program Requirements**

**General Program Requirements:**

**Number of Didactic Credits Required Beyond the Baccalaureate:** 30

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Core Courses</strong> 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECON 8001</td>
<td>Microeconomic Analysis</td>
<td>3</td>
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<tr>
<td>ECON 8002</td>
<td>Macroeconomic Analysis</td>
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</tr>
<tr>
<td>ECON 8003</td>
<td>Mathematics for Economics I</td>
<td>3</td>
</tr>
<tr>
<td>ECON 8005</td>
<td>Microeconomic Theory I</td>
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<td>ECON 8007</td>
<td>Macroeconomic Theory I</td>
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</tr>
<tr>
<td>ECON 8009</td>
<td>Econometrics I</td>
<td>3</td>
</tr>
</tbody>
</table>

**Specialization Courses and Electives** 2

<table>
<thead>
<tr>
<th>Total Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
</tr>
</tbody>
</table>

1. Depending on academic background, an elective or independent study may be substituted for one of the core courses listed.
2. Specialization and elective courses should be chosen in consultation with the Graduate Director.

**Culminating Events:**

This program has no culminating events.

**Contacts**

**Program Web Address:**

http://www.cla.temple.edu/economics/graduate/

**Department Information:**

Dept. of Economics  
822 Ritter Hall Annex  
1301 Cecil B. Moore Avenue  
Philadelphia, PA 19122-6091  
econgrad@temple.edu  
215-204-8880

**Submission Address for Application Materials:**

http://cla.temple.edu/interfolio/economics-ma

**Submission Address for Official Electronic Transcripts:**

econgrad@temple.edu

**Submission Address for Official Paper Transcripts:**

Linda Wyatt, Graduate Coordinator  
Temple University Dept. of Economics  
1301 Cecil B. Moore Avenue, 822 Ritter Hall Annex (004-00)  
Philadelphia, PA 19122-6091

**Department Contacts:**

Admissions:  
Belinda Wilson  
Department Administrator  
bwilson@temple.edu  
215-204-0472

Admissions:  
Linda Wyatt  
Graduate Coordinator  
linda.wyatt@temple.edu  
215-204-6638

Graduate Director:  
Dr. Douglas Webber  
douglas.webber@temple.edu  
215-204-5025

Chairperson:  
Dr. Michael Leeds
Economics, Ph.D.

COLLEGE OF LIBERAL ARTS (https://liberalarts.temple.edu)

About the Program

The Ph.D. in Economics is designed to prepare the student for university teaching and research as well as for positions as economists in business, government, and industry. The program emphasizes the development of advanced research and scholarship skills in applied economics areas, including applied econometrics, economic development, financial economics, industrial organization, international economics, and labor economics. The program has a strong track record of placing its graduates in desirable positions.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered after 5:30 p.m. The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: Interdisciplinary tracks may be established with other departments.

Areas of Specialization: The Economics faculty focus their research in the major areas of applied econometrics, development economics, financial economics, industrial organization, international economics, and labor economics.

Job Prospects: The program is dedicated to producing well-trained researchers to work in academic positions and research-oriented jobs in companies, think tanks, government, and other institutions.

Non-Matriculated Student Policy: Non-matriculated students are permitted to take doctoral courses when granted an exception. Students may enroll in up to 9 credits with the permission of the Economics Graduate Director. Minimum undergraduate GPA requirements apply.

Financing Opportunities: The Economics Department has a limited number of Ph.D. assistantships that are awarded to exceptionally good candidates on a competitive basis. The assistantship requires 20 hours of service per week, which can include teaching and/or supervised research. An assistantship provides a stipend, tuition remission, and health insurance.

Admission Requirements and Deadlines

Application Deadline:

Fall: January 15
Spring: November 15

Applications received after the January 15 deadline will be considered, but will not receive priority for financial assistance. Spring admission is restricted to those students who have taken classes at Temple University in the Fall or who can pass the waiver exams. All other prospective students are advised to apply for Fall admission.

APPLY ONLINE to this graduate program to begin the application process and receive your TUId number.

Next, visit http://cla.temple.edu/interfolio/economics-phd to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

- Scores for the GRE and TOEFL, if applicable, must be reported directly by ETS to institution code 2906.
- Official electronic transcripts must be sent to econgrad@temple.edu (linda.wyatt@temple.edu) or the originals mailed to:
  Linda Wyatt, Graduate Coordinator
  Temple University College of Liberal Arts
  Dept. of Economics
  1301 Cecil B. Moore Avenue, 822 Ritter Hall Annex (004-00)
  Philadelphia, PA 19122-6091

Letters of Reference:

Number Required: 3
From Whom: Letters of recommendation should be obtained from college/university faculty members familiar with the applicant's academic competence.

Coursework Required for Admission Consideration: Details on appropriate background are available from the department upon request.

Master's Degree in the Discipline/Related Discipline: A master's degree is not required.

Bachelor's Degree in the Discipline/Related Discipline: A baccalaureate degree is required. Details on appropriate disciplines are available from the department.

Statement of Goals: Approximately 500 to 1,000 words include your specific interest in Temple's program, your research goals, your future career goals, and your academic and research achievements.

Standardized Test Scores:

GRE: Required. Scores are typically in the 65th to 99th percentile on the quantitative section and in the 50th to 99th percentile on the verbal section.

TOEFL: 79 iBT or 550 PBT minimum

Transfer Credit: A grade of "B" or better must have been earned in a peer graduate program course in order for the credit to transfer. The maximum number of credits a student may transfer is 9.

Program Requirements

General Program Requirements:

Number of Credits Required to Earn the Degree: 42

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tr>
<td>ECON 8001</td>
<td>Microeconomic Analysis ¹</td>
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<td>ECON 8002</td>
<td>Macroeconomic Analysis ¹</td>
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<tr>
<td>ECON 8003</td>
<td>Mathematics for Economics I ¹</td>
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<td>ECON 8005</td>
<td>Microeconomic Theory I</td>
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<td>Macroeconomic Theory I</td>
<td>3</td>
</tr>
<tr>
<td>ECON 8009</td>
<td>Econometrics I</td>
<td>3</td>
</tr>
</tbody>
</table>
Culminating Events:

Preliminary Examinations:
The purpose of the preliminary examinations is to demonstrate critical and interpretive knowledge of current research. There are two theory exams, one each in microeconomics and in macroeconomics, and two field exams. The theory exams must be passed by the end of the second year, while the field exams must be completed within three terms of passing the last theory exam.

The subject areas of the field exams are chosen by the student, in consultation with the Graduate Director. To prepare for a field exam, the student must take one or two courses in the subject area. The number of required courses is specified by the Field Examination Committee. If a required course is not offered, it can be substituted by ECON 9183 Field Examination/Dissertation Proposal Research.

Dissertation Proposal:
The dissertation proposal demonstrates the student's knowledge of and ability to conduct the proposed research. The proposal should consist of the following:

1. the context and background surrounding a particular research problem,
2. an exhaustive survey and review of literature related to the problem, and
3. a detailed methodological plan for investigating the problem.

The proposal should be completed and approved no more than one year after passing the last field exam. Upon approval, a timeline for completing the investigation and the writing process is established.

Dissertation:
The doctoral dissertation is an original empirical study that makes a significant contribution to the field. It should expand the existing knowledge and demonstrate the student's knowledge of both research methods and a mastery of her/his primary area of interest. Dissertations should be rigorously investigated; uphold the ethics and standard of the field; demonstrate an understanding of the relationship between the primary area of interest and the broader discipline of Economics; and be prepared for publication in an academic journal.

The Doctoral Advisory Committee is formed to oversee the student's doctoral research and is comprised of at least three Graduate Faculty members. Two members, including the Chair, must be from the department. The Chair is responsible for overseeing and guiding the student's progress, coordinating the responses of the committee members, and informing the student of her/his academic progress.

If any member of the Doctoral Advisory Committee decides to withdraw from the committee, the student shall notify the Chair of the committee and the Director of the Ph.D. program. The student is responsible for finding a replacement, in consultation with the Chair. Inability to find a replacement shall constitute evidence that the student is unable to complete the dissertation. In such a case, the student may petition the Director of the Ph.D. program for a review. Once a review of the facts and circumstances is completed, the Director rules on the student's progress. If the Director rules that the student is incapable of completing the dissertation, s/he is dismissed from the program. This decision may be appealed to the Associate Dean of the College of Liberal Arts and, if necessary, to the Graduate School.

The Dissertation Examining Committee evaluates the student's dissertation and oral defense. This committee is comprised of the Doctoral Advisory Committee and at least one additional faculty member from outside the department. It examines the student's ability to express verbally her/his research topic, methodological approach, primary findings, and implications. The committee votes to pass or fail the dissertation and the defense at the conclusion of the public presentation.

Students preparing to defend their dissertation should confirm a time and date with their Dissertation Examining Committee and register with the Graduate Secretary at least 15 days before the defense is to be scheduled. The Graduate Secretary arranges the time, date, and room within two working days, and forwards the appropriate forms to the student. The student then sends a completed "Announcement of Dissertation Defense" form, found in TUportal under the Tools tab within "University Forms," at least 10 working days before the defense to the Graduate School. The Economics Department posts an announcement of the defense.
Contacts

Program Web Address:
http://www.cla.temple.edu/economics/graduate/

Department Information:
Dept. of Economics
822 Ritter Hall Annex
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
econgrad@temple.edu
215-204-8880

Submission Address for Application Materials:
http://cla.temple.edu/interfolio/economics-phd

Submission Address for Official Electronic Transcripts:
econgrad@temple.edu

Submission Address for Official Paper Transcripts:
Linda Wyatt, Graduate Coordinator
Temple University Dept. of Economics
1301 Cecil B. Moore Avenue, 822 Ritter Hall Annex (004-00)
Philadelphia, PA 19122-6091

Department Contacts:
Admissions:
Linda Wyatt
Graduate Coordinator
linda.wyatt@temple.edu
215-204-6638

Graduate Director:
Dr. Douglas Webber
douglas.webber@temple.edu
215-204-5025

Chairperson:
Dr. Michael Leeds
mleeds@temple.edu
215-204-8030

English, M.A.

COLLEGE OF LIBERAL ARTS (https://liberalarts.temple.edu)

About the Program
The English program enjoys a high reputation for teaching and research in both traditional and innovative areas of literary history and literary criticism. The graduate program prides itself on providing students with the advantages of studying at a Research I institution in a diversity-filled urban environment.

Time Limit for Degree Completion: 3 years

Campus Location: Main and Center City. Every summer, the department offers the Rome Seminar in Art and Culture.

Full-Time/Part-Time Status: In order to be certified as full-time, a student must engage in at least 9 credits of coursework each term or the equivalent in supervised teaching, dissertation research, or writing. In special circumstances, the department permits part-time enrollment, but such students are not exempt from the guidelines concerning reasonable academic progress toward the degree.

Interdisciplinary Study: Students are encouraged to engage in serious interdisciplinary projects and to work closely with a faculty member engaged in research and publications projects that take them regularly into the areas of History, Philosophy, Psychology, the arts, and non-print media.

Affiliation(s): Affiliations include the Association of Departments of English (ADE) and the Modern Language Association (MLA).

Study Abroad: The Rome Seminar in Art and Culture is offered in the Summer term at Temple University's Rome campus, the Villa Caproni. This 6-credit graduate seminar is designed to bring together the disciplines of aesthetics and cultural studies. Its interdisciplinary thrust, the seminar is intended to serve as a foundation for advanced study in the human sciences and to reflect the most current trends of thought in post-modern culture. Applications are welcome from advanced undergraduate, graduate, and postdoctoral students in fields such as art, film studies, literature, philosophy, and social theory. The seminar entails an intensive program of classwork, field trips, and guest lectures. The city of Rome is used extensively as a resource. Accommodations are available in a Temple student Residenza or through student-arranged living accommodations in advance. All classes are taught in English.

Areas of Specialization: The literature faculty is unusually productive in both emerging and traditional areas of literary scholarship. The M.A. program provides options for intensive study in critical theory, cultural theory, film theory, interdisciplinary methods, minority literature, and women's studies. Traditional areas of study include Renaissance, eighteenth-century, nineteenth-century, modern, and contemporary literature, as well as rhetoric and composition.

Job Prospects: Graduates find jobs in the Philadelphia area and in all parts of the United States as teachers, editors, journalists, and in all professions that value writing and critical thinking.

Non-Matriculated Student Policy: Non-matriculated students are restricted from taking English courses.

Financing Opportunities: Assistantship monies are typically reserved for doctoral students.

Admission Requirements and Deadlines

Application Deadline:
Fall: February 15

To be considered for a fellowship and/or teaching assistantship, applicants should submit a complete application by December 15. Applications are accepted until February 15, although funding consideration is uncertain for later applications.

APPLY ONLINE to this graduate program to begin the application process and receive your TUid number.
Next, visit http://cla.temple.edu/interfolio/english-ma to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

- Scores for the GRE and TOEFL, if applicable, must be reported directly by ETS to institution code 2906.
- Official electronic transcripts must be sent to eng1grad@temple.edu or the originals mailed to:
  Sharon Logan, Graduate Coordinator
  Temple University College of Liberal Arts
  Dept. of English
  1114 W. Polett Walk, 1027 Anderson Hall (022-29)
  Philadelphia, PA 19122-6090

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members familiar with the applicant’s academic abilities.

Coursework Required for Admission Consideration: An applicant should hold an undergraduate degree in English or have completed equivalent coursework in English and American literature.

Bachelor’s Degree in Discipline/Related Discipline: A baccalaureate degree is required in a Humanities discipline. A wide range of literature courses should have been taken.

Statement of Goals: In approximately 600 to 1,000 words, include your research goals, your particular interest in the Temple English graduate program, and your future goals.

Standardized Test Scores:
GRE: Required. Scores on the verbal section are most important on the general test.
GRE Subject Exam in Literature: Required. Subject test scores are highly considered. A low score does not exclude an applicant from consideration, if other application materials are strong.
TOEFL: 105 iBT or 620 PBT minimum

Resume: Current resume required.

Writing Sample: The writing sample should be a work of literary criticism, not creative writing, approximately 12 to 15 pages in length. It should represent the best of its author’s critical and writing abilities.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coursework, including at least one advanced-level (8000 to 9000-level) seminar</td>
<td>27</td>
</tr>
<tr>
<td>ENG 9996</td>
<td>Master's Essay</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Total Credit Hours</td>
<td>30</td>
</tr>
</tbody>
</table>

Language Examination: Students must demonstrate a reading knowledge of one foreign language.

Culminating Events:
Qualifying Paper:
While enrolled in ENG 9996, students must write one qualifying paper that demonstrates the student’s ability to write perceptively, lucidly, and at length (4,000-6,000 words) on a literary subject. Typically a substantial revision of a paper submitted for a previous course, the qualifying paper is to be submitted in the last term of coursework. A sponsor on the Graduate Faculty must approve it for submission to the Graduate Director. Then, two members of the English Graduate Faculty other than the paper’s sponsor review it. The readers may accept the essay, ask for revisions, or fail it. The paper must receive a passing grade from at least one of the non-sponsoring readers. An essay that has been failed by two readers is not accepted as an M.A. qualifying paper. With the permission of the Graduate Director, the student may revise the essay. An essay that has been revised at a reader’s request must be resubmitted to the same reader to certify that the objections have been met.

Contacts

Program Web Address:
http://www.cla.temple.edu/english/graduate/

Department Information:
Dept. of English
1027 Anderson Hall
1114 W. Polett Walk
Philadelphia, PA 19122-6090
eng1grad@temple.edu
215-204-7561

Submission Address for Application Materials:
http://cla.temple.edu/interfolio/english-ma

Submission Address for Official Electronic Transcripts:
eng1grad@temple.edu

Submission Address for Official Paper Transcripts:
Sharon Logan, Graduate Coordinator
Temple University Dept. of English
1114 W. Polett Walk, 1027 Anderson Hall (022-29)
Philadelphia, PA 19122-6090

Department Contacts:
Admissions:
Sharon Logan
eng1grad@temple.edu
215-204-1796

Director of Graduate Studies:
Miles Orvell
orvell@temple.edu
215-204-7365

Chairperson:
Graduates tend to find placement in the Northeast, demonstrating that the program continues to serve and enrich the region as it has traditionally. Increasingly, however, the program's graduates have taken jobs outside the region in such locations as California, New York, Ohio, and Wisconsin.

Non-Matriculated Student Policy: Non-matriculated students are restricted from taking English courses.

Financing Opportunities: Students are encouraged to apply for a Teaching Assistantship, which includes a tuition waiver and a stipend for the nine months of the academic year. Conditions of the award are determined by the graduate student union contract with Temple University and currently require recipients to perform a combination of teaching and other assignments. Applications are submitted along with admissions applications by December 15. The department makes funding offers on or before March 31.

Admission Requirements and Deadlines

Application Deadline:

Fall: February 15

To be considered for a fellowship and/or teaching assistantship, applicants should submit a complete application by December 15. Applications are accepted until February 15, although funding consideration is uncertain for later applications.

APPLY ONLINE to this graduate program to begin the application process and receive your TUid number.

Next, visit http://cla.temple.edu/interfolio/english-phd to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

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  Temple University College of Liberal Arts
  Dept. of English
  1114 W. Polett Walk, 1027 Anderson Hall (022-29)
  Philadelphia, PA 19122-6090

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members familiar with the applicant's academic abilities.

Coursework Required for Admission Consideration: The applicant should have completed an undergraduate concentration in English covering a broad chronological range.

Master's Degree in Discipline/Related Discipline: A master's degree is preferred.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree in English is required.
**Introduction to Graduate Study**

**Statement of Goals:** In approximately 600 to 1,000 words, include your research goals, your particular interest in the Temple English graduate program, and your future goals.

**Standardized Test Scores:**

GRE: Required. Scores on the verbal section are most important on the general test.

TOEFL: 105 iBT or 620 PBT minimum

Resume: Current resume required.

Writing Sample: The writing sample should be a literary critical essay, not a piece of creative writing, approximately 12 to 15 pages in length. It should represent the work that is to be continued in graduate school as well as the abilities the author brings to the program.

Advanced Standing: Students who have earned graduate credits or a master's degree in English from another institution can transfer up to 15 credits (five courses) toward the coursework requirement for the Ph.D.

**Program Requirements**

**General Program Requirements:**

*Number of Credits Required Beyond the Baccalaureate: 48*

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 9001</td>
<td>Introduction to Graduate Study</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>One course in Concentrated Textual Analysis with a focus on a single author or single text</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Two courses covering Periods and Periodization</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Two courses in Genre Studies</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>One course in History of Criticism and Theory</td>
<td>3</td>
</tr>
</tbody>
</table>

**Electives**

Select 7 courses in consultation with the Graduate Director and, in the final year, the student's dissertation advisor, for a minimum of 21 hours.

**Non-Didactic Courses**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>ENG 9994</td>
<td>Preliminary Examination Preparation</td>
<td>6</td>
</tr>
<tr>
<td>ENG 9998</td>
<td>Pre-Dissertation Research</td>
<td></td>
</tr>
<tr>
<td>ENG 9999</td>
<td>Dissertation Research</td>
<td></td>
</tr>
</tbody>
</table>

**Total Credit Hours:** 48

1. At least one of the core courses must also be in Pre-1800 Literature, and at least one must be an advanced-level seminar. The latter requirement can be satisfied for all Teaching Assistants by taking the required ENG 9087.

2. At least 2 of the 6 credits must be in ENG 9999 Dissertation Research.

**Language Examination:** Students must demonstrate a reading knowledge of one foreign language.

**Culminating Events:**

*Optional Master's Degree:* Students enrolled in the Ph.D. program who do not already possess the M.A. degree may acquire the optional M.A. degree while continuing on to the Ph.D. Students who leave the Ph.D. program for any reason also can apply for the M.A. degree. In either case, the student qualifies for the M.A. by successfully completing 30 credits of coursework; passing the foreign language requirement; and writing a Qualifying Paper that demonstrates the student's ability to write perceptively, lucidly, and at length (4,000-6,000 words) on a literary subject.

**Preliminary Examination:**

The preliminary examination, together with successful completion of coursework, should demonstrate special competence in two areas. Students define these areas by writing a protocol and constructing two reading lists, one for each area. The protocol is an explanation and justification of the two reading lists in terms of professional aims. It demonstrates competence in generally recognized areas of teaching and scholarship and explains how the fields chosen will advance the student's research.

The preliminary examination should be completed within one year of finishing coursework. Students preparing for the exam must register for ENG 9994 Preliminary Examination Preparation. They should also confirm a time and date with the Chair of their Preliminary Examinations Committee and register with the Graduate Coordinator. The student and Chair receive confirmation of the time, date, room, and proctor for the examination.

The subject areas are determined, in advance, by the student and the Preliminary Examinations Committee. The exam consists of written and oral components. The written exam is normally taken in two sessions. The questions for each session generally do not exceed five, from which the student chooses two. Members of the student's Preliminary Examinations Committee write the questions for the preliminary exam. All members of the Preliminary Examinations Committee read the entire written examination and issue a grade of Pass or Fail. The essays are judged on the basis of their demonstrable mastery of the material on the list and their analytical strength. If two members of the committee grade the exam as failed, the student does not pass the written examination. Students failing the exam retake the entire exam no later than the following academic term. Students who fail the written examination twice are dismissed from the program.

After passing the written exam, the student proceeds to a one-hour oral exam. The oral must be held no more than three weeks after taking the written examination. At the oral, students should demonstrate their competence in both exam fields. They have the opportunity to discuss their written essays. The exam must be graded Pass or Fail. If the student fails the oral exam, it may be retaken once no later than the following academic term. Students who fail the oral examination twice are dismissed from the program. If the committee finds that the student's combined performance on both the written and oral portions of the preliminary examination is exceptionally meritorious, the committee may acknowledge this by including the designation Preliminary Examinations Honors.

**Dissertation Proposal:**

The dissertation proposal should:

- identify the key issues to be investigated;
- demonstrate an awareness of the relevant scholarship in the field; and
- provide a detailed outline of the proposed dissertation.
Dissertation:
The dissertation should demonstrate the student's ability to conceive, research, and write a scholarly project of at least 150 pages. The student's doctoral research is overseen by the Doctoral Advisory Committee, which consists of at least three Graduate Faculty members. Two members, including the Chair, must be from the English Department. Committee compositions must be approved by the department's graduate committee. The Chair is responsible for overseeing and guiding the student's progress; coordinating the responses of the committee members; and informing the student of her/his academic progress.

The Dissertation Examining Committee evaluates the student's dissertation and oral defense, including the student's ability to express verbally her/his research question, methodological approach, primary findings, and implications. This committee comprises the Doctoral Advisory Committee and at least one additional Graduate Faculty member from outside the English Department. The Outside Examiner should be identified no later than the beginning of the term in which the student will defend the dissertation. The committee votes to pass or fail the dissertation and the defense at the conclusion of the public presentation.

If a student wishes to change a member of a committee, the new member must be approved by the department's graduate executive committee and registered with the Graduate Coordinator and the Graduate School.

Students who are preparing to defend their dissertation should confirm a time and date with their Dissertation Examining Committee and register with the Graduate Coordinator and the Graduate School.

Contacts
Program Web Address:
http://www.cla.temple.edu/english/graduate/

Department Information:
Dept. of English
1027 Anderson Hall
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Philadelphia, PA 19122-6090

Department Contacts:
Admissions:
Sharon Logan
eng1grad@temple.edu
215-204-1796

Director of Graduate Studies:
Miles Orvell
orvell@temple.edu
215-204-7365

Chairperson:
Katherine Henry
khenry@temple.edu
215-204-1756

Geographic Information Systems, P.S.M.

COLLEGE OF LIBERAL ARTS (https://liberalarts.temple.edu)

About the Program

The Department of Geography and Urban Studies offers graduate work leading to the Professional Science Master’s (P.S.M.) degree in Geographic Information Systems (GIS). The program combines advanced training in GIS core skills with professional development and business ethics to prepare students to enter the GIS workforce. Our courses introduce students to a variety of cutting-edge spatial analysis technology and mapping software. The Department of Geography and Urban Studies faculty have expertise in a range of GIS applications, including urban, health, environment, business, location analysis, geovisualization, and remote sensing. The program curriculum is informed by an advisory board of industry professionals and incorporates real-world experiences through project-based learning and an internship capstone requirement. Graduates are well prepared to pursue certification as a GIS professional (GISP).

Time Limit for Degree Completion: 3 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered after 4:30 p.m. The degree program can be completed on a full- or part-time basis. Full-time students can complete the program in one calendar year. Part-time students are expected to complete the program in 3 years.

Affiliation(s): The program is an affiliated Professional Science Master’s program.

Areas of Specialization: The program specializes in Geographic Information Systems and offers coursework in cartography, geospatial programming, spatial database design, spatial statistics, web mapping, geovisualization, and several applied areas. The Department offers students the opportunity to learn in research laboratory settings equipped with the latest technologies.
Job Prospects: The program will train a workforce that is highly competent to meet the challenges faced by public, regulated, and private sector industries and also adaptable to the future needs of the industries. It provides access to a professional career, requiring both technical skills and professional development training in areas related to business, policy, and ethics. The program will enable students to match their specialized training in GIS with substantive fields that utilize such training, including criminology, epidemiology, national security, urban and regional planning, and the natural and environmental sciences.

Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits prior to matriculation. If accepted into the program, these credits may be applied toward the degree.

Funding Opportunities: Typically, the Department does not provide financial assistance to students at the master's level. Teaching and Research Assistantships are reserved for Ph.D. students.

Admission Requirements and Deadlines

Application Deadline:

Fall:
• March 1 – Application Deadline
• July 1 – Late Application Deadline

Spring:
• November 1 – Application Deadline
• December 7 – Late Application Deadline

Summer:
• April 15 – Application Deadline

Applications are processed as they are received. Late applications may be considered for admission.

APPLY ONLINE to this graduate program to begin the application process and receive your TUid number.

Next, visit http://cla.temple.edu/interfolio/gis-psm to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

- Scores for the TOEFL, if applicable, must be reported directly by ETS to institution code 2906.
- Official electronic transcripts must be sent to GUSadmissions@temple.edu or the originals mailed to:
  GIS P.S.M. Program Graduate Admissions Committee
  Temple University College of Liberal Arts
  1115 W. Polett Walk, 308 Gladfelter Hall (025-27)
  Philadelphia, PA 19122-6089

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members or professional references familiar with the applicant's academic competence. The recommendations may be submitted on the "Reference Report for Graduate Study," found at http://www.temple.edu/grad/admissions/documents/Web_GRAD_REFERENCE_REPORT.pdf, or as a traditional letter of recommendation. Letters must be signed and forwarded as a PDF on official letterhead.

Coursework Required for Admission Consideration: No specific coursework is required as applicants are drawn from a variety of disciplines.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree in any field is appropriate. An undergraduate GPA of 3.0 or an undergraduate GPA of 2.5 with 2 to 4 years of relevant professional experience is preferred.

Statement of Goals: Approximately 500 to 1,000 words include why you are interested in this program; your research and academic goals; your future career goals; your academic and research achievements; and any other information that you believe will be helpful in evaluating your application.

Standardized Test Scores:
TOEFL: 88 iBT or 575 PBT minimum

Resume: Current resume required.

Transfer Credit: Applicable graduate coursework may be transferred from outside the University, provided that the credits were obtained no more than five years prior to the student's matriculation at Temple and the grades are "B" or better. The credits must be equivalent to coursework offered at Temple. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GUS 5162</td>
<td>Advanced Statistics for Urban Applications</td>
<td>3</td>
</tr>
<tr>
<td>GUS 8065</td>
<td>Cartographic Design</td>
<td>3</td>
</tr>
<tr>
<td>GUS 8066</td>
<td>Application Development for Geographic Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>GUS 8067</td>
<td>Spatial Database Design</td>
<td>3</td>
</tr>
<tr>
<td>GUS 8069</td>
<td>GIS Ethics and Professional Practice</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>12</td>
</tr>
</tbody>
</table>

Capstone Course

GUS 9187 GIS Capstone 3

Total Credit Hours 30

1 Select four electives from a departmental list of approved courses. GUS 5062 Fundamentals of Geographical Information Systems must be taken as an elective if the student has not completed equivalent coursework or lacks equivalent professional experience, as determined by the faculty advisor.

Culminating Events:

GIS Capstone:
The GIS Capstone course (GUS 9187) provides an experiential and industry-relevant learning experience for students matriculated in the GIS Professional Science Master's program at Temple. Students engage in a structured internship experience (140 hours during the
term) identified with the guidance of P.S.M. faculty at Temple and a prospective employer. The student completes a GIS-oriented project during the internship that draws on the GIS science and professional skills developed through the P.S.M. curriculum.

Contacts
Program Web Address:
https://www.cla.temple.edu/geography-and-urban-studies/graduate/

Department Information:
Dept. of Geography and Urban Studies
308 Gladfelter Hall
1115 W. Polett Walk
Philadelphia, PA 19122-6089
psmgis@temple.edu
215-204-7692

Submission Address for Application Materials:
http://cla.temple.edu/interfolio/gis-psm

Submission Address for Official Electronic Transcripts:
GUSadmissions@temple.edu

Submission Address for Official Paper Transcripts:
GIS P.S.M. Program Graduate Admissions Committee
Temple University College of Liberal Arts
1115 W. Polett Walk, 308 Gladfelter Hall (025-27)
Philadelphia, PA 19122-6089

Department Contacts:
Senior Manager, Administration:
Vicki Giammarco
vicki.giammarco@temple.edu
215-204-7692

Program Coordinator:
Liz Janczewski
psmgis@temple.edu
215-204-3386

Assistant Director:
Lee Hachadoorian
lee.hachadoorian@temple.edu
215-204-3331

Graduate Chairperson:
Dr. Hamil Pearsall
hamil.pearsall@temple.edu
215-204-3074

Chairperson:
Dr. Melissa Gilbert
mgilbert@temple.edu
215-204-7692

Geography and Urban Studies, M.A.

COLLEGE OF LIBERAL ARTS (https://liberalarts.temple.edu)

About the Program
The Department of Geography and Urban Studies offers graduate work leading to the Master of Arts degree. The program prepares students for further study and for careers in academia, community organizing and social change efforts, economic development, environmental management, geographic systems management, and planning and public administration. Throughout, emphasis is placed on the development of research techniques and analytical skills applicable to problem solving.

Time Limit for Degree Completion: 3 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered after 4:30 p.m. The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: Faculty members in the Department of Geography and Urban Studies hold doctoral degrees in a half dozen different social sciences. Even beyond the interdisciplinary expertise of the departmental faculty, the program draws on the expertise of Graduate Faculty conducting research and teaching courses in related departments across the university.

Affiliation(s): The program is affiliated with the Association of American Geographers and the Urban Affairs Association.

Areas of Specialization: The graduate program in Geography and Urban Studies emphasizes study and research in the areas of environmental issues, gender and race, geographic methods, international development, social and spatial theory, and urban development. Areas of applied work include cartography, environmental analysis, geographic information science, land-use planning and management, and regional development. The Department offers students a chance to be trained in geographic information science in a research laboratory equipped with the latest technology.

Job Prospects: Graduates have continued their education by pursuing doctoral degrees in some of the nation’s most prestigious Ph.D. programs. Graduates also find employment in public sector agencies that deal with environmental planning, land use, and urban problems. In addition, they work for quasi-public social service institutions that address various needs of urban residents, as well as for private sector firms whose business requires an understanding of urban and spatial dynamics.

Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits prior to matriculation. If accepted into the program, these credits may be applied toward the degree.

Funding Opportunities: Typically, the Department does not provide financial assistance to students at the master’s level. Teaching and Research Assistantships are reserved for Ph.D. students.

Admission Requirements and Deadlines
Application Deadline:
Fall: March 1  
Spring: November 1

Applications may be reviewed prior to the deadlines. Although students are sometimes admitted for the Spring term, the Department encourages applicants to apply for the Fall term since the program sequence is designed to begin at that time.

APPLY ONLINE to this graduate program to begin the application process and receive your TUid number.

Next, visit http://cla.temple.edu/interfolio/gus-ma to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

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  Graduate Admissions Committee  
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  Dept. of Geography and Urban Studies  
  1115 W. Polett Walk, 308 Gladfelter Hall (025-27)  
  Philadelphia, PA 19122-6089

Letters of Reference:
Number Required: 3

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Coursework Required for Admission Consideration: No specific coursework is required as applicants are drawn from a variety of disciplines.

Bachelor’s Degree in Discipline/Related Discipline: A baccalaureate degree in any of the social sciences is appropriate. A bachelor's degree in another discipline may also be considered.

Statement of Goals: Approximately 500 to 1,000 words include why you are interested in Temple's Geography and Urban Studies program; your research and academic goals; your future career goals; your academic and research achievements; and any other information that you believe will be helpful in evaluating your application. The Graduate Admissions Committee is particularly interested in students' interests and goals and whether they fit with our program offerings and faculty interests.

Standardized Test Scores:
GRE: Required. A combined score of at least 297 (new test) or 1,000 (old test) is required for the quantitative and verbal sections of the exam.

TOEFL: 88 iBT or 575 PBT minimum

Resume: Current resume required.

Writing Sample: At its discretion, the Graduate Admissions Committee may request a writing sample.

Transfer Credit: Applicable graduate coursework may be transferred from outside the University, provided that the credits were obtained no more than five years prior to the student's matriculation at Temple and the grades are "B" or better. The credits must be equivalent to coursework offered at Temple. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:
Number of Didactic Credits Required Beyond the Baccalaureate: 36

Required Courses:

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>GUS 5159</td>
<td>Geographic Inquiry</td>
<td>3</td>
</tr>
<tr>
<td>GUS 8011</td>
<td>History and Theory of Urban Studies</td>
<td>3</td>
</tr>
<tr>
<td>GUS 8016</td>
<td>Public Policy for Urban Regions</td>
<td>3</td>
</tr>
<tr>
<td>GUS 8031</td>
<td>Critical Issues in Globalization, Sustainability, and Social Justice</td>
<td>3</td>
</tr>
<tr>
<td>GUS 9991</td>
<td>Master's Research Paper</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Introduction to Statistics course</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Two methodology courses selected from a departmental list</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Four electives</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Total Credit Hours</td>
<td>36</td>
</tr>
</tbody>
</table>

Culminating Events:
Master's Research Paper:
In a student's final term, s/he develops a high-quality paper on a topic of her/his choice. Students meet as a class to facilitate their projects. The class is graded on a pass/fail basis. The course instructor evaluates the paper and determines whether the student passes the class.

Contacts

Program Web Address:
https://www.cla.temple.edu/geography-and-urban-studies/graduate/

Department Information:
Dept. of Geography and Urban Studies  
308 Gladfelter Hall  
1115 W. Polett Walk  
Philadelphia, PA 19122-6089  
guses@temple.edu  
215-204-7692

Submission Address for Application Materials:
http://cla.temple.edu/interfolio/gus-ma

Submission Address for Official Electronic Transcripts:
GUSadmissions@temple.edu

Submission Address for Official Paper Transcripts:
Graduate Admissions Committee  
Temple University Dept. of Geography and Urban Studies
Department Contacts:
Senior Manager, Administration:
Vicki Giammarco
vicki.giammarco@temple.edu
215-204-7692

Graduate Chairperson:
Dr. Hamil Pearsall
hamil.pearsall@temple.edu
215-204-3074

Chairperson:
Dr. Melissa Gilbert
mgilbert@temple.edu
215-204-7692

Geography and Urban Studies, Ph.D.

COLLEGE OF LIBERAL ARTS (https://liberalarts.temple.edu)

About the Program

The Ph.D. program trains students in interdisciplinary and spatially integrative frameworks and equips them with specialized skills to pursue cutting-edge research and to address real-world conditions. The program draws on its Philadelphia location to provide students with opportunities to engage in public policy and urban research. Students can utilize the faculty's linkages with community-based organizations, educational institutions, non-governmental organizations, and public agencies, as well as their work in social movements in the local region, many other regions in the United States, and international locations.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered after 4:30 p.m. The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: The faculty members of the Department of Geography and Urban Studies hold doctoral degrees in geography, urban and regional planning, and other social sciences. Even beyond the interdisciplinary expertise of the departmental faculty, the program draws on the expertise of Graduate Faculty conducting research and teaching courses in related departments across the university.

Affiliation(s): The program is affiliated with the Association of American Geographers and the Urban Affairs Association.

Areas of Specialization: The graduate program in Geography and Urban Studies focuses on the themes of globalization, social justice, and sustainability as lenses through which to examine the development of urban regions. Our emphasis on globalization focuses on capital and labor flows, welfare state restructuring, identity, culture, and concepts of citizenship. In the realm of social justice, interest lies in how globalization exacerbates uneven development and contributes to increasing inequalities both between and within places, including economic inequalities, gender, and race/ethnicity. Our work on sustainability encompasses comparative dimensions of environmental sustainability on the national and global scales, environmental justice, land use/land cover analysis, sprawled development patterns, and urban ecology. As an integrative graduate program, the curriculum connects these processes, giving students a strong analytical foundation that stresses nature and societal relations, place and context, scale transitions, and spatial relations.

Job Prospects: Graduates are typically employed in academic settings as teaching-research scholars in geography and in interdisciplinary fields such as environmental studies, international studies, and urban studies. They also serve research-oriented organizations such as non-governmental organizations, policy institutes, and think tanks as applied researchers and administrators.

Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits prior to matriculation. If accepted into the program, these credits may be applied toward the degree.

Funding Opportunities: Financial support is available to graduate students through a variety of university and departmental teaching and research assistantships, fellowships, and awards. Most assistantships and fellowships carry a stipend plus a tuition waiver. Assistantships typically require 20 hours of work per week devoted to assisting faculty with either teaching or research. Teaching Assistants grade papers, lead discussion sections, and occasionally lecture in large undergraduate classes. Advanced graduate students are sometimes assigned their own undergraduate class to teach.

In recent years, a number of graduate students have been supported by externally funded faculty research projects. Positions on funded research projects may include full or partial tuition coverage in addition to the stipend for up to 20 hours of work per week. The timing and availability of such opportunities depend on the status of faculty research projects and external grants.

Admission Requirements and Deadlines

Application Deadline:
Fall: January 15

Applications may be evaluated before the deadline, if submitted early, and after the deadline at the discretion of the Graduate Chair.

APPLY ONLINE to this graduate program to begin the application process and receive your TUid number.

Next, visit http://cla.temple.edu/interfolio/gus-phd to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

• Scores for the GRE and TOEFL, if applicable, must be reported directly by ETS to institution code 2906.
• Official electronic transcripts must be sent to GUsadmissions@temple.edu or the originals mailed to:
  Graduate Admissions Committee
  Temple University College of Liberal Arts
  Dept. of Geography and Urban Studies
  1115 W. Polett Walk, 308 Gladfelter Hall (025-27)
  Philadelphia, PA 19122-6089

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members familiar with the applicant’s academic competence. The recommendations may be submitted on the “Reference Report for Graduate Study,” found at http://www.temple.edu/grad/admissions/documents/Web_GRADREFERENCE_REPORT.pdf, or as a traditional letter of recommendation. Letters must be signed and uploaded to http://cla.temple.edu/interfolio/gus-phd as a PDF on official letterhead.

Coursework Required for Admission Consideration: No specific coursework is required as applicants are drawn from a variety of disciplines.

Master’s Degree in Discipline/Related Discipline: A master's degree is not required but is highly recommended.

Bachelor’s Degree in Discipline/Related Discipline: A baccalaureate degree is required. It should have been earned in Criminal Justice, Economics, Geography, Political Science, Psychology, Sociology, or Urban Studies, among other disciplines.

Statement of Goals: Approximately 500 to 1,000 words include why you are interested in Temple’s Geography and Urban Studies program; your research and academic goals; your future career goals; your academic and research achievements; and any other information that you believe will be helpful in evaluating your application. The Graduate Admissions Committee is particularly interested in students’ interests and goals and whether they fit with our program offerings and faculty interests.

Standardized Test Scores:
GRE: Required. A combined score of at least 300 (new test) or 1,000 (old test) is required for the quantitative and verbal sections of the exam.

TOEFL: 88 iBT or 575 PBT minimum


Writing Sample: At its discretion, the Graduate Admissions Committee may request a writing sample.

Advanced Standing Credit: Graduate coursework taken at an accredited institution as part of a master's degree program prior to matriculation at Temple may be accepted for Advanced Standing Credit. An applicant must supply an official transcript from her/his prior graduate institution to the Graduate Chair. The Graduate Admissions Committee reviews the request. Only grades of “B” or better can be accepted. If the request is granted, the student receives advanced standing and is awarded a maximum of 24 credits. Normally, these credits should have been earned no more than five years prior to the student’s matriculation at Temple.

Program Requirements

General Program Requirements:
Number of Didactic Credits Required Beyond the Baccalaureate: 51

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GUS 5159</td>
<td>Geographic Inquiry</td>
<td>3</td>
</tr>
<tr>
<td>GUS 5161</td>
<td>Statistics for Urban Spatial Analysis</td>
<td>3</td>
</tr>
</tbody>
</table>

Culminating Events:

Qualifying Examination:
The qualifying exam is taken after all coursework is completed. The exam has written and oral components. Students develop the parameters of the exam with their committee, which approves reading lists prepared by the student before the exam. All parts of the written exam must be passed before the student proceeds to the oral exam. The oral exam, based on the written portion, assesses the candidate’s readiness to commence dissertation research.

In conjunction with her/his Graduate Advisor, each student identifies at least two other faculty members for the exam committee. At least two committee members must be GUS faculty, while the third may be from outside the Department. The Graduate Advisor/Chair and all but one of the remaining members of the examination committee must approve in order for the student to pass.

Students are expected to demonstrate breadth of knowledge and intellectual sophistication across the fields of Geography and Urban Studies. Students should be able to employ various theoretical approaches to investigate geographic and urban patterns and processes and to use data to illuminate concepts. When the student has passed the exam (1 credit), s/he achieves candidacy. If the student fails the exam, s/he is given the opportunity to retake the exam, usually within one term. If the student fails the second time, s/he is recommended for academic dismissal.

Ordinarily, the exam should be administered no later than six months after coursework is completed. Several different written formats are possible, at the discretion of the committee, including a single extended paper, individual papers prepared for separate examiners, and closed or open book exams administered within a time limit. The oral portion of the exam may expand on the questions asked on the written exam. It may include additional but related questions.

Proposal:
The proposal defines the research problem, scholarly significance, pertinent literature, and methodology. It should contain an outline of the projected document and timeline for completing various tasks involved in the dissertation. Within one term after finishing the qualifying exam, a candidate is expected to submit a 5 to 6 page preliminary dissertation proposal to the Doctoral Advisory Committee. Within one year of passing the qualifying exam, a candidate is expected to submit a more substantial proposal to the committee members. When the proposal is ready, the committee chair schedules a meeting of the committee. The student gives an oral presentation of the proposal; the committee members ask questions and give suggestions. The committee must approve the proposal and give specific instructions on how the student can improve it. After the meeting, the committee chair sends a letter to the Department’s Graduate Director indicating whether it has been accepted (1 credit) or rejected, and summarizing comments from the overall committee.
At that time, the student is scheduled to present her/his proposal at a departmental colloquium.

**Dissertation:**
The Ph.D. dissertation should make an original contribution to the field of Geography and Urban Studies. The dissertation must demonstrate formulation, design, and independent execution of a significant research project. The student must complete a minimum of 4 credits of dissertation research. While no ceiling on the number of dissertation credits exists, students should note that seven years from matriculation is the time limit for completion of the degree.

When the student and the committee chair judge the dissertation complete and ready to be defended, the committee chair schedules the defense. The Coordinator arranges the time, date, and room, and forwards to the student the appropriate forms. With approval of the committee chair, the Coordinator sends a completed “Announcement of Dissertation Defense” form, found in TUportal under the Tools tab within “University Forms,” to the Graduate School at least 10 working days before the defense. The Coordinator notifies all members of the Dissertation Examining Committee and all faculty members and graduate students in the Department. Changes in the membership of a committee must be approved by the Department’s Graduate Director. If approved, the Graduate School must be notified.

The entire Dissertation Examining Committee must attend the defense to evaluate the student’s dissertation and oral defense. This committee is comprised of the Doctoral Advisory Committee and at least one additional Graduate Faculty member from outside the Department of Geography and Urban Studies. Affiliated faculty may serve as external members of the Dissertation Examining Committee. The student presents a formal lecture at the defense. The oral defense should demonstrate that the student’s work satisfies the standards for original research in Geography and Urban Studies; that the candidate has mastered the appropriate methodology or methodologies; and that the candidate has an understanding of the relationship of the dissertation to the broader field. Following the public lecture and discussion, the Dissertation Examining Committee convenes in a closed session with the candidate for the defense. Directly after this session, the committee votes whether to accept or reject a completed dissertation.

### Contacts

**Program Web Address:**
https://www.cla.temple.edu/geography-and-urban-studies/graduate/

**Department Information:**
Dept. of Geography and Urban Studies
308 Gladfelter Hall
1115 W. Polett Walk
Philadelphia, PA 19122-6089
guses@temple.edu
215-204-7692

**Submission Address for Application Materials:**
http://cla.temple.edu/interfolio/gus-phd

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**History, M.A.**

COLLEGE OF LIBERAL ARTS (https://liberalarts.temple.edu)

**About the Program**

Temple University offers a varied and flexible program for graduate training in History at the master’s level. While general requirements ensure that every graduate is familiar with the basic issues of History and the latest approaches of professional historians, students are encouraged to tailor their programs to suit their own particular interests. To enrich their appreciation of History, students are also welcome to study in other disciplines. This program provides enrichment opportunities for teachers in secondary schools, students hoping to pursue history doctorates elsewhere, and professionals in various public history fields. Philadelphia is a rich public history environment with numerous opportunities for internships and fieldwork.

**Time Limit for Degree Completion:** 3 years, although a student whose advisor certifies that s/he is making satisfactory progress may apply for an extension of her/his program for up to a maximum of 5 years

**Campus Location:** Main, Center City

**Full-Time/Part-Time Status:** The degree program can be completed on a full- or part-time basis.

**Interdisciplinary Study:** The program encourages interdisciplinary coursework, research, and interactions among faculty and students.

**Affiliation(s):** The History program at Temple is affiliated with the Biographical Dictionary of Pennsylvania Legislators, the Center for the Study of Force and Diplomacy, The Myer and Rosaline Feinstein
Center for American Jewish History, the Social Science Data Library, and Temple’s Urban Archives.

**Areas of Specialization:** Faculty members specialize and offer substantial coursework in diplomatic and military history, environmental history, history of capitalism, modern history, public history, U.S. social and cultural history, and urban history.

**Job Prospects:** The program is primarily dedicated to producing well-trained historians who aspire to receive the Ph.D., teach in primary and secondary schools, and work in public history institutions (i.e., archives, museums, historical parks, and government agencies).

**Non-Matriculated Student Policy:** Non-matriculated students are permitted to take up to 9 credits of coursework prior to applying. These courses can be transferred into the degree program after admission only if the student earned a grade of “B” or higher.

**Funding Opportunities:** Funding is not offered by the History Department to students studying at the master’s level.

### Admission Requirements and Deadlines

**Application Deadline:**

- **Fall:** February 15

Applications are evaluated together after the deadline date.

**APPLY ONLINE to this graduate program** to begin the application process and receive your TUID number.

Next, visit http://cla.temple.edu/interfolio/history-ma to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

- Scores for the GRE and TOEFL, if applicable, must be reported directly by ETS to institution code 2906.
- Official electronic transcripts must be sent to history@temple.edu or the originals mailed to:
  
  Vangeline Campbell, Graduate Coordinator  
  Temple University College of Liberal Arts  
  Dept. of History  
  1115 W. Polett Walk, 913 Gladfelter Hall (025-24)  
  Philadelphia, PA 19122-6089

**Letters of Reference:**

- **Number Required:** 3
  
  *From Whom:* Letters of recommendation should be obtained from instructors or other individuals who are familiar with the applicant’s academic work.

**Coursework Required for Admission Consideration:** Applicants are expected to have majored or minored in History or a related discipline at the undergraduate level. Applicants lacking that qualification are considered on a case-by-case basis.

**Bachelor’s Degree in Discipline/Related Discipline:** All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

**Statement of Goals:** Approximately 500 to 750 words include a clear statement of your interest in the master’s program in History at Temple University and how Temple’s program meets your needs; your major historical interests; your career goals; and your academic and research achievements, if applicable.

**Standardized Test Scores:**

- **GRE:** Required. Combined scores on the verbal and quantitative sections should exceed 300 (new test) or 1,050 (old test).
- **TOEFL:** 79 iBT or 550 PBT minimum

**Writing Sample:** The writing sample should demonstrate an applicant’s ability to conduct research and write a scholarly paper. It should be fully referenced according to a professional, scholarly style manual and should not exceed 30 pages in length.

**Transfer Credit:** Graduate credits from an accredited institution may be transferred into the History program. Transferred credits must be equivalent to coursework at Temple and carry a “B” grade or better. They may not have been used to obtain another degree. Incoming students may transfer a maximum of 6 credits.

### Program Requirements

**General Program Requirements:**

- **Number of Credits Required Beyond the Baccalaureate:** 30

**Required Courses:**

<table>
<thead>
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<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>HIST 8714</td>
<td>Historical Methods</td>
<td>3</td>
</tr>
<tr>
<td>Seven 8000-level seminars</td>
<td></td>
<td>21</td>
</tr>
<tr>
<td>Two 9000-level research seminars</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td></td>
<td>30</td>
</tr>
</tbody>
</table>

1. Course selection is determined by the student’s specific interests and goals. It is recommended that one skills-based course, such as HIST 5152 Digital History or HIST 8152 Managing History, be taken. Those with a concentration in Public History are required to take both HIST 8101 Introduction to American History I (to 1865) and HIST 8152 Managing History.

2. Students may take only one writing seminar in an academic term. The second seminar should be taken in the student’s last term of study. Students choose whether to combine the two 9000-level courses to produce a master’s thesis.

**Internship:** An internship is required only of students pursuing Public History as a primary or secondary field.

**Culminating Events:** Both thesis and non-thesis options are offered as a culminating event. The default position of the department is that students opt for the non-thesis option.

**Non-Thesis Option:**

- All M.A. students are required to take two writing seminars along with the Ph.D. students. The writing seminars are open writing workshops, eschewing a particular time period or geographic focus on which students must concentrate, and instead allowing students to pursue whatever interest they wish. Students work with the course instructor who sets deadlines; provides feedback on argument, structure, and writing; and, with input from the faculty mentor, assigns a grade for the course. Students also, where appropriate, work with another faculty mentor whose area of expertise aligns with the student’s research topic.
Thesis Option:
Before beginning the second writing seminar, students choosing the thesis option must formally declare that they will continue and build on the research paper written for the first writing seminar. Essentially, the first research paper is treated as one chapter in an M.A. thesis and the second chapter is written during the second writing seminar. Permission from both the faculty mentor who will oversee the project and the M.A. Coordinator is required. The instructor of the second writing seminar must also be advised of a student's choice to work on a thesis.

The M.A. thesis in its entirety must be signed by a first reader, i.e., the faculty mentor, and a second reader, who may or may not be one of the faculty members who taught the two research classes. The thesis advisor/first reader gathers the necessary signatures.

Students who pursue an M.A. thesis but do not complete it must have produced work comparable to two distinct seminar papers to complete the degree program.

Contacts
Program Web Address:
http://www.cla.temple.edu/history/graduate/

Department Information:
Dept. of History
913 Gladfelter Hall
1115 W. Polett Walk
Philadelphia, PA 19122-6089
history@temple.edu
215-204-4997

Submission Address for Application Materials:
http://cla.temple.edu/interfolio/history-ma

Submission Address for Official Electronic Transcripts:
history@temple.edu

Submission Address for Official Paper Transcripts:
Vangeline Campbell, Graduate Coordinator
Temple University Dept. of History
1115 W. Polett Walk, 913 Gladfelter Hall (025-24)
Philadelphia, PA 19122-6089

Department Contacts:
M.A. Coordinator:
Jessica Roney
950 Gladfelter Hall
jessica.roney@temple.edu
215-204-4997

Director of Graduate Studies:
Alan McPherson
918 Gladfelter Hall
alan.mcpherson@temple.edu
215-204-7466

Chairperson:
Jay Lockenour
jay.lockenour@temple.edu
215-204-7437

History, Ph.D.
COLLEGE OF LIBERAL ARTS (https://liberalarts.temple.edu)

About the Program
Temple University offers a varied and flexible program for graduate training in History on the Ph.D. level in the Philadelphia area, which is rich in historical archives and museums. While general requirements ensure that every graduate is familiar with the basic issues of History and the latest approaches of professional historians, the program focuses on two thematic areas: Environments, Cities, and Cultures; and War, Empire, and Society. The thrust of the Ph.D. program is to prepare professional historians who are equipped to function in academia, public history, government service, or other related careers.

Time Limit for Degree Completion: 7 years

Campus Location: Main, Center City

Students take many of their courses at the Center City Campus, while preliminary examinations and dissertation defenses are conducted on Main Campus.

Full-Time/Part-Time Status: Students are required to complete the Ph.D. program on a full-time basis.

Interdisciplinary Study: The program encourages interdisciplinary coursework, research, and interactions among faculty and students.

Affiliation(s): The History program at Temple is affiliated with the Biographical Dictionary of Pennsylvania Legislators, the Center for the Study of Force and Diplomacy, The Myer and Rosaline Feinstein Center for American Jewish History, the Social Science Data Library, and Temple's Urban Archives.

Areas of Specialization: Faculty members specialize and offer substantial coursework in anti-colonial movements, cultural history, diplomatic history, gender, imperialism, international history, military history, political history, race and ethnicity, religious history, sexuality, and social history. Thus, two thematic areas constitute the focus of the Ph.D. program:

- Environments, Cities, and Cultures; and
- War, Empire, and Society.

Although training is offered in many different historical eras at Temple, most doctoral students write dissertations that focus on the eighteenth, nineteenth, or twentieth century. Most, but certainly not all, of the History Department's doctoral students focus on the history of North America.

Job Prospects: The program is primarily dedicated to producing well-trained historians who work in academia and public history.

Non-Matriculated Student Policy: Non-matriculated students are permitted to take up to 9 credits of coursework. These courses can be transferred into the degree program after their admission only if they earn a grade of “B” or higher.

Financing Opportunities:
Teaching Assistantships:
Teaching Assistants are required to teach or assist in teaching at Temple. Their duties include 20 hours of service per week. Teaching Assistants receive tuition waivers for all courses taken during the Fall and Spring terms (up to 9 credits) that contribute to the student's program, plus a stipend and health insurance benefits. All Teaching Assistants are doctoral students.

Teaching Assistantships can be renewed for up to four years. Decisions regarding Teaching Assistantships are made annually in the Spring term. New applicants for the Ph.D. program are automatically considered. Advanced Ph.D. students who are not currently Teaching Assistants and who wish to be considered should send an application to the Chair of the History Department by January 31.

Fellowships:
Presidential, University, and Future Faculty Fellowships provide support for four years. The Graduate School funds Years 1 and 4; the College of Liberal Arts funds Years 2 and 3. In addition to free tuition and health coverage, these fellowships carry a stipend. While on fellowship, the student must take a minimum of 9 credits each term during the academic year. Students are nominated for a fellowship by the department upon admission to the program.

Fellowships from the Center for the Humanities at Temple (CHAT): CHAT Senior Doctoral Fellowships provide support to advanced doctoral students pursuing research in the humanities or humanistic social sciences in any school or college at Temple. Fellows receive funding for full-time work on their dissertation. This includes a stipend, tuition, benefits, and $500 in research funding for the term. Fellows receive office space at the Center and participate in the bi-weekly Fellows Seminar.

CHAT Graduate Teaching Fellowships provide support for research and offer the opportunity to teach innovative and interdisciplinary humanities courses. CHAT Graduate Teaching Fellowships are configured as 75% directed research or creative activity in the applicant’s area of interest and 25% teaching for a course of wide humanistic concern related to that interest, as it is tied to the focus of particular departments or programs.

Our students are highly competitive for CHAT fellowships.

Dissertation Completion Grant:
Students may apply for a dissertation completion grant in their last term before graduation. Applications are due in the History Graduate Office on the second Friday in March and the second Friday in October, which is one week prior to the Graduate School deadline. The Director of Graduate Studies or the Department Chair submits a letter of nomination on behalf of each applicant. Departmental nomination does not, however, guarantee the nominee receipt of the dissertation completion grant. Note that receipt of this grant disqualifies a student from receiving further financial support from Temple University.

Appointment as Part-Time Instructor:
Ph.D. candidates are eligible for appointment as part-time instructors. The Department Chair, after consulting with the Director of Graduate Studies, is responsible for these appointments. S/he considers whether the candidate has assisted in the course and, if so, consult the faculty whom s/he has assisted. Priority is given to qualified students who have not had the opportunity previously to teach independently.

Awards and Grants:
The History Department and the Center for the Study of Force and Diplomacy provide several awards and grants annually. For more information on these, see www.cla.temple.edu/history/student-life/.

Admission Requirements and Deadlines

Application Deadline:
Fall: December 15

Applications are evaluated together after the deadline date.

APPLY ONLINE to this graduate program to begin the application process and receive your TUid number.

Next, visit http://cla.temple.edu/interfolio/history-phd to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

- Scores for the GRE and TOEFL, if applicable, must be reported directly by ETS to institution code 2906.
- Official electronic transcripts must be sent to history@temple.edu or the originals mailed to:

  Vangeline Campbell, Graduate Coordinator
  Temple University College of Liberal Arts
  Dept. of History
  1115 W. Polett Walk, 913 Gladfelter Hall (025-24)
  Philadelphia, PA 19122-6089

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from instructors or other individuals who are familiar with the applicant’s academic work.

Coursework Required for Admission Consideration: Applicants are expected to have majored or minored in History at the undergraduate level or to have received an M.A. in History. Those who lack either of these qualifications are considered on a case-by-case basis.

Master’s Degree in Discipline/Related Discipline: A master’s degree is not required.

Bachelor’s Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Statement of Goals: Approximately 500 to 750 words include a clear statement of your interest in the doctoral program in History at Temple University and how Temple’s program meets your needs; your major historical interests; your career goals; and your academic and research achievements, if applicable.

Standardized Test Scores:
GRE: Required. Combined scores on the verbal and quantitative sections should exceed 303 (new test) or 1,100 (old test).

TOEFL: 79 iBT or 550 PBT minimum

Writing Sample: The writing sample should demonstrate the applicant’s ability to conduct research and write a scholarly paper. It should be fully
Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Master's: 24
Number of Credits Required Beyond the Baccalaureate: 39

Required Courses:

Doctoral students must take at least 11 courses in the History Department, and may elect to take courses outside the department with the permission of the Director of Graduate Studies. A minimum of 10 courses must be completed before the general examination can be taken. Students should consult with their advisor for specific field requirements for the following required courses:

- One methodology seminar [HIST 8714 Historical Methods (3 s.h.)], taken in the first year of study in the first academic term.
- Two 9000-level research/writing seminars (currently HIST 9208 Seminar in International History repeated for a total of 6 credits) in which a substantial piece of original research is produced; one course must be taken in the first year, preferably in the second term.
- Eight 5000- and 8000-level reading and literature review courses (24 credits), with the course offerings coordinated by the Director of Graduate Studies; four of the courses are recommended to be taken in the student's area of interest.
- 6 credits of HIST 9994 Preliminary Examination Preparation, HIST 9998 Pre-Dissertation Research, and HIST 9999 Dissertation Research.

Language Examination: All students must show competence in at least one foreign language. To demonstrate competence, a student must pass a short translation exam administered, in most cases, by the University's language departments. The dissertation advisor determines whether competence in a second language is required. The language requirement must be satisfied prior to taking the general examination. For doctoral students in American History, the language requirement may be waived at the discretion of the advisor and with the approval of the Director of Graduate Studies.

Culminating Events:

Preliminary Examination:

All doctoral students in American History take a preliminary exam in American history in the September of their third term of study. The preliminary exam is a take-home exam consisting of one synthetic question covering all of American history. Students choose from two questions and have one week to write an essay of no more than 6,000 words. The exam is set by an exam committee of three to five Graduate Faculty in American History appointed by the Director of Graduate Studies.

The Director of Graduate Studies asks all American historians in the History Department to suggest seven books for a U.S. field list of approximately 60 books that doctoral students in American History are expected to have read by the time of the preliminary exam. The exam question is based on this list. The exam committee, newly appointed each year, constructs the list in the first instance from the suggested books, and each year the committee is responsible for updating the reading list. That list is distributed to incoming doctoral students in American History when they matriculate into the program.

The term of each exam committee begins when a Ph.D. cohort enters the doctoral program in August and runs until that cohort takes its exam the following September. At the end of the Fall and Spring terms, the exam committee is responsible for conducting a workshop with first-year doctoral students in which the expectations of the preliminary exam are discussed. The exam is graded blindly by the exam committee.

Doctoral students who twice fail the preliminary exam are dismissed from the program.

General Examination:

Doctoral students in American History who pass the preliminary exam proceed to the general exam, which consists of three fields:

- One field must be geographically distinct from American history, such as Latin American history. The reading list for the geographically distinct field is limited to no more than 50 books or article equivalents.
- The other two fields are research fields, in a period or methodology, such as Early American, Early Republic, environmental, foreign relations, gender, military, public, or urban history. Each research field is limited to no more than 70 books or article equivalents.

Doctoral students in American History must complete the general exam by the end of their fifth term. This oral exam is two hours long. Students are asked to discuss issues pertinent to their prepared fields of study. To pass the exam, all members of the committee must approve of the student’s performance. Students may retake the oral exam if they fail it. After failing twice, students are dismissed from the program.

For all doctoral students not specializing in American history, the general examination is a take-home exam. Examinees have up to two weeks to complete it. During that time, they are expected to write an original essay approximately 2,500 to 3,500 words in length for each of the three fields on the examination. Examinees should obtain the questions for the examination from and return the completed examination to the Graduate Secretary. Examinees are expected to provide the Graduate Secretary with both a hard copy and a disk that contains their completed examination.

With the written examination, students need to demonstrate their mastery of the field, their ability to explain and evaluate interpretations, and their ability to defend their own interpretation. Bibliographic citations to specific interpretations are expected. Satisfactory completion of the Ph.D. general examination requires receiving passing grades in all three fields ("general," "dissertation," and "distinct").

Upon passing the written exams, students are given a two-hour oral exam by their General Examination Committee. The oral exam should be scheduled within 30 days of the beginning of the written exam. Students may be asked to defend or expand on their written exams, and may also be asked to discuss other issues pertinent to their prepared fields of study. To pass the exam, all members of the committee must approve the student's performance.

The general examination must be completed by the end of the student's fifth term in the doctoral program. Doctoral students who have been granted a leave of absence must complete their general examination no later than the sixth week of the sixth term in the doctoral program. (Ideally, students in the doctoral program complete their coursework by the end of the fourth term.) Failure to complete the coursework and take the general examination by the end of the fifth term of matriculation may be considered grounds for dismissal from the program.
University-wide regulations governing examinations when a Ph.D. student matriculated apply throughout her/his career until the degree is received. If departmental or college regulations change, the student similarly follows the rules in place at the time of her/his matriculation unless s/he obtains approval of the advisory committee and written permission from the Graduate Council to follow more recent requirements.

Students preparing to take their general examination should confirm times and dates with their General Examination Committee Chair, other committee members, and the Graduate Secretary. All parties involved receive confirmation of the times, dates, and rooms for the examination.

Dissertation Committee:
After passing the general exam and in consultation with the primary advisor, students select the members of their Doctoral Advisory Committee. The Doctoral Advisory Committee is formed to oversee the student's doctoral research and is comprised of at least three Graduate Faculty members, two of whom are from the History Department. The student's primary advisor functions as the chair of this committee and is responsible for overseeing and guiding the student's progress, coordinating the responses of committee members, and informing the student of her/his academic progress.

Further, either during the process of writing the dissertation prospectus, or at some time following its approval, students, again in consultation with their primary advisor, select a qualified external reader of the dissertation. The external reader may either be on the faculty of a Temple University department other than History or a member of the faculty of a college/university other than Temple. Once s/he has agreed to serve in the capacity (and received approval from the Graduate School), s/he will be added to the Dissertation Examining Committee. The total membership of the Dissertation Examining Committee may exceed four faculty (the minimum being the three Graduate Faculty members who approved the prospectus plus the external reader). A majority of the committee's members, however, must be Temple University History Department Graduate Faculty.

Prospectus:
All doctoral candidates must prepare a dissertation prospectus in close consultation with the advisor prior to advancing to Ph.D. candidacy. This document, usually 15 to 20 pages in length, must achieve the following goals:

1. Identify the major research question of the dissertation.
2. Situate the dissertation in the existing scholarly literature.
3. Lay out a coherent research strategy that identifies the archives and sources that will be used.
4. Include a timeline for research and writing of the dissertation.

The prospectus defense is a public event, open to History Department faculty and doctoral students. At this event, the doctoral candidate makes a brief presentation lasting approximately 10 to 20 minutes, outlining the contents of the prospectus. A copy of the dissertation prospectus is made available to the department at least one week before the defense and must be open to the public. A copy of the dissertation is publicly announced in writing at least ten days in advance of the date of the defense and must be open to the public. A copy of the dissertation is made available to the department at least one week before the defense for examination by the faculty.

An Oral Defense Chair must be identified. This person must be a Temple University presidential faculty member and may not be the chair of the student's Dissertation Examining Committee.

In the event that a member of the Dissertation Examining Committee cannot attend the defense, teleconferencing or videoconferencing is arranged. This arrangement must be approved by the Graduate School prior to the defense. No more than one member of the Dissertation Examining Committee can be physically absent from the defense.

The dissertation defense is a public event, open to History Department faculty and doctoral students. At this event, the doctoral candidate makes a brief presentation, outlining the main argument of the dissertation. During the defense, faculty and students engage the candidate in a vigorous conversation about the project. At the end of the defense, the Dissertation Examining Committee meets privately to vote on the candidate's performance. The candidate is notified immediately of the decision.

Contacts
Department Web Address:
http://www.cla.temple.edu/history/graduate/

Department Information:
Dept. of History
913 Gladfelter Hall
1115 W. Polett Walk
Philadelphia, PA 19122-6089
history@temple.edu
215-204-7461

Mailing Address for Application Materials:
http://cla.temple.edu/interfolio/history-phd
Submission Address for Official Electronic Transcripts:
history@temple.edu

Submission Address for Official Paper Transcripts:
Vangeline Campbell, Graduate Coordinator
Temple University Dept. of History
1115 W. Polett Walk, 913 Gladfelter Hall (025-24)
Philadelphia, PA 19122-6089

Department Contacts:
Director of Graduate Studies:
Alan McPherson
918 Gladfelter Hall
alan.mcpherson@temple.edu
215-204-7466

Chairperson:
Jay Lockenour
jay.lockenour@temple.edu
215-204-7437

Liberal Arts, M.L.A.

COLLEGE OF LIBERAL ARTS (https://liberalarts.temple.edu)

About the Program

The Master of Liberal Arts is an interdisciplinary degree that allows students to take courses from a variety of graduate programs in the College of Liberal Arts and elsewhere in the University. Students are encouraged to develop an individual program of study, based on their own interests and objectives and at the direction of the M.L.A. Program Director. Our students are generally working adults who want to grow intellectually by extending their liberal arts education. Some may be seeking to move toward a doctorate and want to prepare themselves for graduate work; others may be interested in changing careers and wish to gain post-baccalaureate experience. The M.L.A. degree might be relevant, for example, for those who want to move into educational administration, library work, public policy, the law, or teaching.

Time Limit for Degree Completion: 5 years

Campus Location: Main, Center City

Students take required and elective courses at the Main and Center City campuses.

Full-Time/Part-Time Status: Students complete the degree program through classes offered after 4:30 p.m. The degree program can be completed on a full- or part-time basis.

Continuous Enrollment: Students must maintain continuous enrollment. When a student knows that s/he will not register for the Fall or Spring term, s/he must submit a "Leave of Absence Request" form, found in TUportal under the Tools tab within "University Forms," along with the $25 fee to the M.L.A. administrative office. If a student fails to register for two consecutive terms without submitting Leave of Absence forms, then s/he may be dismissed from the program for non-continuous enrollment.

Interdisciplinary Study: Students are introduced to interdisciplinary thinking through a range of "Topics" courses and encouraged to develop individual programs of study along interdisciplinary lines.

Areas of Specialization: The M.L.A. program draws on faculty from across the range of disciplines in the College of Liberal Arts, with an emphasis on applied humanities, engaging such areas as arts and culture, media studies, public history, and social theory. Students may also choose to concentrate their course of study by taking courses outside of the M.L.A. curriculum.

Job Prospects: While not a professional degree, the M.L.A. degree may be applicable to a wide range of future graduate training and/or employment: from teaching and educational administration to library work; from public policy to arts management; and from government, the law, and public service to private sector work.

Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits of graduate work at Temple University before applying to the program. Coursework may be credited to the M.L.A. degree with approval of the M.L.A. Advisory Committee.

Financing Opportunities: Funding opportunities are not available.

Application Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

Applications are accepted on a rolling basis, but all application materials must be received by the deadline to be considered for that term. Late applications may be considered for admission.

APPLY ONLINE to this graduate program to begin the application process and receive your TUid number.

Next, visit http://cla.temple.edu/interfolio/liberal-arts-mla to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

- Scores for the TOEFL, if applicable, must be reported directly by ETS to institution code 2906.
- Official electronic transcripts must be sent to morawski@temple.edu or the originals mailed to:

  Stephanie Morawski, Administrator
  Temple University College of Liberal Arts
  M.L.A. Program
  1114 W. Polett Walk, 1041 Anderson Hall (022-36)
  Philadelphia, PA 19122-6090

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be requested from individuals who are well positioned to evaluate the applicant's academic abilities and accomplishments as well as potential for graduate study.

Bachelor's Degree in Discipline/Related Discipline: All applicants must hold a baccalaureate degree from an accredited college or university. A minimum undergraduate GPA of 3.0 is required for admission.
Statement of Goals: Approximately 500 to 1,000 words include your academic and research achievements, your current research interests, and your future career goals.

Standardized Test Scores: TOEFL: 79 iBT or 550 PBT minimum

Resume: Current academic CV or professional resume required.

Transcripts: An official transcript from each post-secondary institution attended is required.

Transfer Credit: Graduate credits from an accredited institution may be transferred into the M.L.A. program upon approval. The credits must be equivalent to coursework offered at Temple and not older than five years. The grade(s) earned must be a “B” or better in order to transfer. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLA 5011</td>
<td>Introduction to Interdisciplinary Studies</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Three MLA “Topics” courses</td>
<td>9</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>18</td>
</tr>
</tbody>
</table>

Total Credit Hours 30

Culminating Events:
Qualifying Paper:
All candidates for the M.L.A. degree are required to write a Qualifying Paper, which is typically 40 to 50 pages in length. It should demonstrate the student’s ability to:

- write analytically on a topic of her/his choice;
- read, absorb, and evaluate scholarly thought and research; and
- develop and establish her/his own perspective on the problem being examined.

The Qualifying Paper is submitted for approval to the M.L.A. Advisory Committee or other graduate faculty chosen by the M.L.A. program. Revisions may be requested.

Contacts
Program Web Address:
https://www.cla.temple.edu/liberal-studies/graduate/

Department Information:
Master of Liberal Arts Program
1041 Anderson Hall
1114 W. Polett Walk
Philadelphia, PA 19122-6090
morawski@temple.edu
215-204-8516

Submission Address for Application Materials:
http://cla.temple.edu/interfolio/liberal-arts-mla

Submission Address for Official Electronic Transcripts:
morawski@temple.edu

Submission Address for Official Paper Transcripts:
Stephanie Morawski, Administrator
Temple University M.L.A. Program
1114 W. Polett Walk, 1041 Anderson Hall (022-36)
Philadelphia, PA 19122-6090

Department Contacts:
Admissions:
Stephanie Morawski
Administrator
morawski@temple.edu
215-204-8516

Program Director:
Michael Szekely
mszekely@temple.edu
215-204-6479

Neuroscience: Systems, Behavior and Plasticity, M.S.

COLLEGE OF LIBERAL ARTS (https://liberalarts.temple.edu)

About the Program
Neuroscience is the study of the nervous system, including the brain, spinal cord, networks of nerve cells called neurons, and how these cells interact to generate behavior. This is a rapidly evolving field with applications ranging from health disciplines to economics and public policy. The philosophical goal of the M.S. program in Neuroscience: Systems, Behavior and Plasticity is to provide advanced training in neuroscience and professional development via coursework and a faculty-mentored research experience to students who have completed an undergraduate major in Neuroscience or a closely related scientific area and who wish to extend their studies before moving on to other postgraduate training or professional employment. Students in this program achieve the following objectives:

- Build a core knowledge in specific areas of neuroscience, including behavioral, cellular, molecular, and systems.
- Develop a general professional competence in oral and written expression as well as in the critical analysis of research articles.
- Learn to understand, create, and undertake hypothesis-based approaches to research.
- Train in a variety of techniques and approaches to studying the nervous system.
- Develop a keen sense of analytical thinking and logic in the evaluation of their own work and that of others.
- Become effective teachers and communicators of neuroscience.
• Gain independence in thinking, teaching, laboratory work, and communicating.

**Time Limit for Degree Completion:** 2 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The degree program is expected to be completed on a full-time basis.

**Job Prospects:** Because the brain is involved in every important human endeavor, understanding the brain and its functions opens career paths in multiple fields, including education, engineering, law, medicine, psychology, and public policy. Master’s-level education in neuroscience provides students with a wide range of career options, including:

- Biostatistician
- Clinical data manager
- Counselor
- Environmental health safety officer
- Medical or science writer
- Public health administrator
- Public policy strategist
- Regulatory affairs specialist
- Research associate at academic research institutes or in private industry
- Research and teaching administrator
- Teacher/lecturer

The United States Bureau of Labor Statistics identifies the breadth of employment opportunities in neuroscience along with the salary ranges for different careers options based on different types of employers in its Occupational Outlook Handbook (http://www.bls.gov/ooh).

**Non-Matriculated Student Policy:** Non-matriculated students are eligible to take graduate courses. If accepted into the program, up to 9 credits may be applied toward the degree program.

**Financing Opportunities:** Assistantships are not available for the M.S. program.

**Admission Requirements and Deadlines**

**Application Deadline:**

*Fall:* March 1

APPLY ONLINE to this graduate program to begin the application process and receive your TUid number.

Next, visit http://cla.temple.edu/interfolio/neuroscience-sbp-ms to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

- Scores for the TOEFL, if applicable, must be reported directly by ETS to institution code 2906.
- Official electronic transcripts must be sent to rebecca.brotschul@temple.edu or the originals mailed to:
  
  Rebecca Brotschul, Program Coordinator
  Temple University College of Liberal Arts
  Neuroscience Program
  1701 N. 13th Street, 618 Weiss Hall (265-67)

- Philadelphia, PA 19122-6085

**Letters of Reference:**

**Number Required:** 3

**From Whom:** Letters of recommendation should be obtained from college/university faculty who are familiar with the applicant’s academic abilities.

**Bachelor’s Degree in Discipline/Related Discipline:** All applicants must hold a baccalaureate degree (B.A. or B.S.) in one of the following disciplines:

- Biostatistician
- Biology
- Chemistry
- Human Movement Science
- Kinesiology
- Mathematics
- Neuroscience
- Physics
- Psychology
- Public Health

Other relevant disciplines, combined with or including coursework in Biology, Chemistry, Mathematics/Statistics, Neuroscience, Physics, and/or Psychology, may be accepted after individual evaluation of the applicant's qualifications.

A minimum GPA of 3.2 in undergraduate work is required for consideration of the application to the program.

**Statement of Goals:** Approximately 500 to 1,000 words outline your specific interest in Temple’s program, your academic achievements, and your future career goals.

**Standardized Test Scores:**

TOEFL: 88 iBT or 575 PBT minimum

**Program Requirements**

**General Program Requirements:**

**Number of Credits Required Beyond the Baccalaureate:** 30

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>NSCI 5001</td>
<td>Systems and Behavioral Neuroscience</td>
<td>3</td>
</tr>
<tr>
<td>NSCI 5002</td>
<td>Neurochemistry</td>
<td>3</td>
</tr>
<tr>
<td>NSCI 5016</td>
<td>Professional Development in Neuroscience</td>
<td>3</td>
</tr>
<tr>
<td>NSCI 9381</td>
<td>Readings in Neuroscience</td>
<td>3</td>
</tr>
<tr>
<td>PSY 5003</td>
<td>Advanced Statistics</td>
<td>3</td>
</tr>
<tr>
<td>PSY 8712</td>
<td>Core Course in Behavioral Neuroscience</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

**Capstone Course**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSCI 9991</td>
<td>Directed Research</td>
<td>6</td>
</tr>
</tbody>
</table>

**Total Credit Hours**

30
Students may select any elective relevant to their area of interest or specialization with approval from the Program Director.

Culminating Events:
Master's Project:
Students are required to work on a master's project over both terms in their second year of the program. The purpose of the project is not only to train students in specific neuroscientific techniques, but also how to develop a scientific and analytical approach toward a problem, formulate clear research questions, conduct experiments, and analyze/interpret data. Depending on their career goals, students may opt to engage either in a laboratory-based research project or in a non-laboratory project.

Students who are motivated to join a doctoral program or are interested in a research position gain by working independently on a neuroscientific investigation under the supervision of a faculty member who maintains an active neuroscience research program. On the other hand, students who are not intending to engage in bench-level research upon graduation and are interested in non-research jobs, such as counseling, research administration, public policy, and teaching, may choose to engage in a non-laboratory project of a similar scope. This may include activities such as conducting a literature review on a topic and presenting it to an audience, drafting a scope of work for a grant funding agency, or preparing a consulting proposal for a prospective client.

Contacts
Program Web Address:
https://www.cla.temple.edu/neuroscience/graduate/

Department Information:
College of Liberal Arts Neuroscience Program
618 Weiss Hall
1701 N. 13th Street
Philadelphia, PA 19122-6085
neuro@temple.edu
215-204-3441

Submission Address for Application Materials:
http://cla.temple.edu/interfolio/neuroscience-sbp-ms

Submission Address for Official Electronic Transcripts:
rebecca.brotschul@temple.edu

Submission Address for Official Paper Transcripts:
Rebecca Brotschul, Program Coordinator
Neuroscience Program
1701 N. 13th Street, 618 Weiss Hall (265-67)
Philadelphia, PA 19122-6085

Department Contacts:
Program Director:
Vinay Parikh
vinay.parikh@temple.edu
215-204-1572

Associate Director, Master's Program in Neuroscience:
Debra Bangasser
debra.bangasser@temple.edu
215-204-1015

Philosophy, M.A.

COLLEGE OF LIBERAL ARTS (https://liberalarts.temple.edu)

About the Program
Temple's Department of Philosophy has strengths in several areas of philosophical study. The department has a rich history and continuing presence in the field of aesthetics as Monroe Beardsley and John Fisher were in the department for many years. The department also has expertise in European philosophy, epistemology, feminist philosophy, philosophy of mind, philosophy of race, and philosophy of science.

The M.A. program is designed for students to begin advanced training in the field of Philosophy. Students may plan to continue with a Ph.D. program elsewhere, or may be satisfied with a master's degree for personal enrichment or for pre-college teaching. Students who plan at the outset to pursue the Ph.D. at Temple should apply to the Ph.D. The M.A. can be earned on the way to the Ph.D., if desired.

Time Limit for Degree Completion: 3 years

Campus Location: Main, Center City

Full-Time/Part-Time Status: Students complete the degree program through classes largely offered before 4:30 p.m. The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: The program encourages students in the M.A. program to engage in a limited amount of interdisciplinary coursework. Students generally take courses in African American Studies, Art History, English, Psychology, or Women's Studies. A dual-degree program earning the M.A. in Philosophy/M.A. in Urban Bioethics (https://medicine.temple.edu/departments-centers/research-centers/center-bioethics-urban-health-and-policy/educational-programs/dual-degrees) is also now being offered with the Lewis Katz School of Medicine.

Affiliation(s): The Greater Philadelphia Consortium provides expanded course options for graduate work in Philosophy. Students enrolled in the M.A. program at Temple may take graduate courses at the University of Pennsylvania and Villanova University.

Job Prospects: M.A. graduates often find employment as teachers in community colleges and in other professions. For university teaching, the Ph.D. is necessary.

Non-Matriculated Student Policy: Non-matriculated students may register for courses after an interview with the Director of Graduate Studies, at which time they should present academic transcripts. Credit toward a subsequent degree program at Temple University is limited to 9 credits.

Financing Opportunities: University Fellowships, Graduate Assistantships, and Academic Internships are ordinarily reserved for Ph.D. students.

Admission Requirements and Deadlines
Application Deadline:
Fall: March 1

Admission is competitive and determined only once a year.

**APPLY ONLINE to this graduate program** to begin the application process and receive your TUid number.

Next, visit http://cla.temple.edu/interfolio/philosophy-ma to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

- Scores for the GRE and TOEFL, if applicable, must be reported directly by ETS to institution code 2906.
- Official electronic transcripts must be sent to slawson@temple.edu or the originals mailed to:

  Sonia Lawson, Graduate Coordinator  
  Temple University College of Liberal Arts  
  Dept. of Philosophy  
  1114 W. Polett Walk, 731 Anderson Hall (022-32)  
  Philadelphia, PA 19122-6090

**Letters of Reference:**  
*Number Required:* 3

**From Whom:** Letters of recommendation should be obtained from college/university faculty members familiar with your academic competence.

**Bachelor’s Degree in Discipline/Related Discipline:** A baccalaureate degree is required, preferably with some coursework in Philosophy.

**Statement of Goals:** In approximately 500 to 1,000 words, address your interest in Temple's program, your research goals, your future career goals, and your academic and research achievements.

**Standardized Test Scores:**
- **GRE:** Required. Scores are typically in the 65-75% range on the verbal and quantitative sections.
- **TOEFL:** 79 iBT or 550 PBT minimum

**Resume:** A short curriculum vitae should be submitted with your application.

**Writing Sample:** The writing sample should demonstrate your ability to research and write a scholarly paper. The paper should be 15-20 pages in length and fully referenced according to a professional, scholarly style manual. It should be in the area of Philosophy or a closely related field.

**Program Requirements**

**General Program Requirements:**
*Number of Credits Required Beyond the Baccalaureate:* 30

**Required Courses:**
The Thesis Option requires students to take 24 credits in Philosophy and 6 credits in thesis writing. The Non-Thesis Option requires students to take 6 credits in electives rather than in thesis writing.

For a current copy of the Departmental Graduate Handbook, which lists all requirements, contact Sonia Lawson, the Graduate Coordinator, at 215-204-1742 or slawson@temple.edu.

**Culminating Events:**

**Thesis Option:**
A thesis is required when choosing the Thesis Option.

**Non-Thesis Option:**
This option has no culminating events.

**Contacts**

**Program Web Address:**
http://www.cla.temple.edu/philosophy/graduate/

**Department Information:**

**Dept. of Philosophy**
731 Anderson Hall  
1114 W. Polett Walk  
Philadelphia, PA 19122-6090  
slawson@temple.edu  
215-204-1742

**Submission Address for Application Materials:**
http://cla.temple.edu/interfolio/philosophy-ma

**Submission Address for Official Electronic Transcripts:**
slawson@temple.edu

**Submission Address for Official Paper Transcripts:**
Sonia Lawson, Graduate Coordinator  
Temple University Dept. of Philosophy  
1114 W. Polett Walk, 731 Anderson Hall (022-32)  
Philadelphia, PA 19122-6090

**Department Contacts:**

**Graduate Coordinator:**  
Sonia Lawson  
slawson@temple.edu  
215-204-1742

**Director of Graduate Studies:**  
Dr. Kristin Gjesdal  
kgjesdal@temple.edu  
215-204-1742

**Chairperson:**  
Dr. Miriam Solomon  
msolomon@temple.edu  
215-204-9629

**Philosophy, Ph.D.**

**COLLEGE OF LIBERAL ARTS**

**About the Program**

Temple's Department of Philosophy has strengths in several areas of philosophical study. The department has a rich history and continuing presence in the field of aesthetics as Monroe Beardsley and John Fisher were in the department for many years. The department also has...
expertise in European philosophy, epistemology, feminist philosophy, philosophy of mind, philosophy of race, and philosophy of science.

The Ph.D. program is designed to provide students with a breadth of knowledge in Philosophy while emphasizing depth of knowledge through intensive work on particular philosophical issues of interest to the student. The program stresses early development of professional writing standards and oral skills. Ph.D. students are generally given the opportunity to teach courses under the guidance of the department's Teaching Mentoring Program.

**Time Limit for Degree Completion:** 7 years

**Campus Location:** Main, Center City

**Full-Time/Part-Time Status:** Students complete the degree program through classes largely offered before 4:30 p.m. The degree program can be completed on a full- or part-time basis.

**Interdisciplinary Study:** The program permits students in the Ph.D. program to take a limited number of courses in non-Philosophy programs at Temple. Many students take courses in African American Studies, Art History, English, and Psychology. Students may also earn the Graduate Certificate in Women's Studies in conjunction with the Ph.D. in Philosophy. A dual-degree program earning the Ph.D. in Philosophy/M.A. in Urban Bioethics (https://medicine.temple.edu/departments-centers/research-centers/center-bioethics-urban-health-and-policy/educational-programs/dual-degrees) is also now being offered with the Lewis Katz School of Medicine.

**Affiliation(s):** The Greater Philadelphia Consortium provides expanded course options for graduate work in Philosophy. Students enrolled in the Ph.D. program at Temple may take graduate courses at the University of Pennsylvania and Villanova University.

**Job Prospects:** Graduates typically find employment in college or university teaching and research. A departmental placement committee assists students with the job search.

**Non-Matriculated Student Policy:** Non-matriculated students may register for courses after an interview with the Director of Graduate Studies, at which time they should present academic transcripts. Credit toward a subsequent degree program at Temple University is limited to 9 credits.

**Financing Opportunities:** Support is available in the form of University Fellowships, Teaching Assistantships, and Academic Internships. University Fellows are typically supported with a stipend and full tuition remission for four years, teaching for two of those years. Teaching Assistants are typically required to teach introductory philosophy courses or recitation sections in large courses taught by professors. They receive a stipend and full tuition remission. All Ph.D. applications are automatically considered for financial aid.

**Admission Requirements and Deadlines**

**Application Deadline:**
- **Fall:** January 15

Admission is competitive and determined only once a year. Applications to the Ph.D. program are automatically considered for financial aid.

**APPLY ONLINE to this graduate program** to begin the application process and receive your TUid number.

Next, visit http://cla.temple.edu/interfolio/philosophy-phd to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

- Scores for the GRE and TOEFL, if applicable, must be reported directly by ETS to institution code 2906.
- Official electronic transcripts must be sent to slawson@temple.edu or the originals mailed to:

  Sonia Lawson, Graduate Coordinator
  Temple University College of Liberal Arts
  Dept. of Philosophy
  1114 W. Polett Walk, 731 Anderson Hall (022-32)
  Philadelphia, PA 19122-6090

**Letters of Reference:**
- **Number Required:** 3

**From Whom:** Letters of recommendation should be obtained from college/university faculty members familiar with your academic competence.

**Coursework Required for Admission Consideration:** Applicants typically have majored or minored in Philosophy for their bachelor's degree.

**Master's Degree in Discipline/Related Discipline:** A master's degree is not required.

**Bachelor's Degree in Discipline/Related Discipline:** A baccalaureate degree in Philosophy is standard, although not mandatory, for admission into the program.

**Statement of Goals:** In approximately 500 to 1,000 words, address your interest in Temple's program, your research goals, your future career goals, and your academic and research achievements.

**Standardized Test Scores:**
- **GRE:** Required. Scores are typically in the 65-75% range on the verbal and quantitative sections.
- **TOEFL:** 105 iBT or 620 PBT minimum

**Writing Sample:** The writing sample should demonstrate your ability to research and write a scholarly paper. The paper should be 15-20 pages in length and fully referenced according to a professional, scholarly style manual. It should be in the field of Philosophy or a closely related area.

**Program Requirements**

**General Program Requirements:**
- **Number of Credits Required Beyond the Baccalaureate:** 42

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Core Courses</strong></td>
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</tr>
<tr>
<td></td>
<td>Course in Epistemology/Metaphysics</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Course in History of Philosophy - Ancient</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Course in History of Philosophy - Kant/Hegel</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Course in History of Philosophy - 17th/18th Century</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Course in Values/Ethics</td>
<td>3</td>
</tr>
</tbody>
</table>
Electives 1
Non-Didactic Courses

PHIL 9994 Preliminary Examination Preparation
PHIL 9998 Pre-Dissertation Research
PHIL 9999 Dissertation Research

Total Credit Hours 42

1 Of the 21 elective credits, 9 credits may be taken in cognate disciplines, subject to determination by the Director of Graduate Studies.

For a current copy of the Departmental Graduate Handbook, which lists all requirements, contact Sonia Lawson, the Graduate Coordinator, at 215-204-1742 or slawson@temple.edu.

Language Examination: Students must pass a written proficiency examination in French, German, or Ancient Greek. Other languages may be approved by the Director of Graduate Studies, provided the student makes a compelling case that the language in question is useful for dissertation work.

Culminating Events: Dissertation Advising:
It is the student’s responsibility, in consultation with her/his primary advisor, to assemble three advisory committees. It is best to form a committee that gives the student a variety of sympathetic but critical perspectives on the project. Three distinct committees, which are largely composed of the same members, must be in place at different phases of the proposal and dissertation processes. The committee guidelines are outlined below:

1. Proposal Advisory Committee: This committee guides the student through the preparation and defense of her/his dissertation proposal. The Proposal Advisory Committee is composed of three Graduate Faculty members from the Philosophy Department. One member is named Chair. Additional members from outside the Philosophy Department may be included with written approval from the Chair and the Graduate School. Normally, the Proposal Advisory Committee becomes the Doctoral Advisory Committee upon approval of the proposal.

2. Doctoral Advisory Committee: This committee guides the student through all stages of the dissertation. The Doctoral Advisory Committee must be in compliance with University guidelines as prescribed by the Graduate School. The committee must be composed of at least three Temple University Graduate Faculty members, two of whom must be from the Philosophy Department. A member of the committee from the Philosophy Department is named Chair.

If changes must be made in the Doctoral Advisory Committee after the student is elevated to candidacy, such changes must be approved by the Chair of the Advisory Committee and the Graduate School. A "Request for Change in Dissertation Committee" form, found in TPortal under the Tools tab within "University Forms," must be filed.

3. Dissertation Examining Committee: This committee consists of the Doctoral Advisory Committee plus one Graduate Faculty member from outside Temple’s Philosophy Department OR one Outside Examiner. The Outside Examiner may be from another academic institution; should not have been a part of the dissertation writing process or the Doctoral Advisory Committee; and must be approved at least two weeks prior to the defense. The Chair of the Dissertation Examining Committee must be a member of the Temple University Graduate Faculty, but may not be the Chair of the student’s Doctoral Advisory Committee. The Chair of the Dissertation Examining Committee must be identified when the defense is posted through the Graduate School.

Preliminary Examinations:
The preliminary examinations consist of writing original research papers in:

1. History of Philosophy, defined as Ancient Philosophy through the end of the 19th Century; and
2. Contemporary Philosophy, emphasizing constructivist, analytical, or other philosophical approaches to a particular issue.

Students may submit either the historical or the contemporary paper first. These papers are typically developed from a student’s best coursework papers and are generally revised through consultation with the professors who originally evaluated them. The papers should aspire to meet the standards of publication. NOTE: A successful course paper typically requires considerable work to become a successful preliminary paper. Preliminary examination essays should show both a mastery of relevant primary and secondary literature and put forward ideas that are an original contribution to the field. Graduate students are strongly encouraged to consult with faculty several months before their preliminary examination essays are due.

The first Preliminary Examination Paper is due by 4:00 p.m. on the second Monday in October at the beginning of the student’s second year, and the second paper submission is due by 4:00 p.m. on the second Monday in October at the beginning of the student’s third year. Papers must be prepared for blind review and submitted both online and in hard copy (four copies) to the Graduate Secretary. Papers should include an abstract of not more than 200 words.

The papers are evaluated by two faculty members. In close cases, a third reader is consulted. Papers are graded High Pass/Pass/Low Pass/Fail. Students receiving a Low Pass are on notice that their performance is not up to the level expected for dissertation work. Second-year students who fail a preliminary examination resubmit (along with their second preliminary examination) in the October of their third year. Third-year students who fail one or two preliminary examinations resubmit by 4:00 p.m. on the second Monday of the following February. Third-year students who fail a preliminary examination twice are dismissed from the program.

Students must be registered for at least one credit of PHIL 9994 Preliminary Examination Preparation in the terms in which they submit their preliminary examinations. Students who are required to resubmit their preliminary examinations must re-register for one credit hour of PHIL 9994 in the term in which the exam is to be resubmitted.

Dissertation Proposal:
The dissertation proposal is an opportunity for the student to develop and clearly articulate the project of the dissertation. The dissertation proposal has two components: written and oral. The written component should be 15-20 pages in length and include a statement of the problem, a critical literature review, and a sketch of how the student intends to address the philosophical problem(s) at hand. The student needs to make clear how the dissertation will be an original contribution to the field of philosophy. A detailed bibliography and chapter outline are also expected. The approved dissertation proposal serves as a contract between the student and her/his Doctoral Advisory Committee; the student agrees to complete
the work outlined in the proposal under the guidance of the Doctoral Advisory Committee.

When the written component of the proposal is judged ready by the Proposal Advisory Committee, an oral examination date is set. At least two weeks before this examination, the defense is announced to the department faculty and at least two copies of the written proposal are made available in the Graduate Coordinator’s office.

The oral examination, which is conducted by the Proposal Advisory Committee, constitutes an opportunity for the student’s committee to make positive suggestions as well as to test the candidate’s preparedness. Other faculty may attend the oral examination and ask questions after the Proposal Advisory Committee has completed its questioning. The Proposal Advisory Committee decides, by majority vote, whether the candidate passes or fails the written and oral parts of the dissertation proposal.

Dissertation:
The dissertation should constitute a definitive and original contribution to the field of philosophy. It needs to show mastery of the relevant philosophical literature. The dissertation should be in the hands of the Dissertation Examining Committee by October 1 for December graduation and by March 1 for May graduation.

All Ph.D. students must formally and publicly defend their dissertations before the Dissertation Examining Committee. The candidate must submit the official, signed notice of the oral defense to the Graduate School 10 or more working days before the scheduled defense. A defense cannot be held without written confirmation of approval and receipt of the defense paperwork from the Graduate School.

The defense should be announced publicly and is open to all members of the University. During the defense, primary questioning is restricted to the members of the Dissertation Examining Committee. Then, Philosophy Department faculty members who have submitted written questions in advance may address the candidate. Lastly, other members of the Philosophy Department faculty may address the candidate. The Dissertation Examining Committee decides, by majority vote, whether the candidate passes or fails.

Contacts
Program Web Address:
http://www.cla.temple.edu/philosophy/graduate/

Department Information:
Dept. of Philosophy
731 Anderson Hall
1114 W. Polett Walk
Philadelphia, PA 19122-6090
slawson@temple.edu
215-204-1742

Submission Address for Application Materials:
http://cla.temple.edu/interfolio/philosophy-phd

Submission Address for Official Electronic Transcripts:
slawson@temple.edu

Submission Address for Official Paper Transcripts:
Sonia Lawson, Graduate Coordinator
Temple University Dept. of Philosophy
1114 W. Polett Walk, 731 Anderson Hall (022-32)
Philadelphia, PA 19122-6090

Department Contacts:
Graduate Coordinator:
Sonia Lawson
slawson@temple.edu
215-204-1742

Director of Graduate Studies:
Dr. Kristin Gjesdal
kgjesda@temple.edu
215-204-1742

Chairperson:
Dr. Miriam Solomon
msolomon@temple.edu
215-204-9629

Political Science, M.A.

COLLEGE OF LIBERAL ARTS (https://liberalarts.temple.edu)

About the Program
The primary mission of the Political Science Department’s graduate program is to prepare students for careers in academia. The department gives equal emphasis to training students for both the research and teaching sides of such a career. Most students in the M.A. program intend to pursue a Ph.D. either at Temple or elsewhere, immediately after graduation or after a few years of employment. Those who wish to pursue a Ph.D. at Temple are strongly encouraged to apply directly to the Ph.D. program at the outset of the admissions process. Some M.A. students use the degree to establish or strengthen credentials in teaching or for private/public sector positions; a few M.A. students want to strengthen their backgrounds for applications to other professional degree programs.

Time Limit for Degree Completion: 3 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered after 3:00 p.m. The degree program can be completed on a full- or part-time basis.

Areas of Specialization: Our particular strengths in American Politics, Comparative Politics, International Relations, and Political Theory are reflected in the brief biographical statements of our Graduate Faculty members’ research and teaching interests:

• In American Politics, faculty teach and conduct research on political behavior, political economy, political institutions, public policy, and urban politics.
• In Comparative Politics, faculty focus on the issues of democratization; public policymaking; the role of the state in the economy; and identity politics in European and post-communist states, Latin America, China, and other developing nations.
• In International Relations, faculty emphasize the various theoretical approaches to the study of world politics and the testing of such theories in the areas of international security, international political economy, and the study of international organizations.
• In Political Theory, our strengths cluster around the research areas of late modernity; democratic and normative political theories, especially those pertaining to political questions of social and economic inequality, globalization, identity politics, and social movements; and the relationship between politics and religion.

Job Prospects: Most students in the M.A. program intend to pursue a Ph.D. immediately after graduation or after a few years of employment. Some M.A. students use the degree to establish or strengthen credentials in teaching or for private/public sector positions; a few M.A. students want to strengthen their background for applications to other professional degree programs.

Non-Matriculated Student Policy: Prior to applying for admission, students sometimes want to take courses as non-degree students. Those who wish to do so must first obtain the approval of the Graduate Chair in the Political Science Department to determine if the individual stands a reasonable chance for admission to the M.A. or Ph.D. program. Then, the prospective student must visit the Office of Continuing Studies with transcripts from all institutions attended, including the one that conferred the undergraduate degree, to be enrolled in the coursework.

Financing Opportunities: M.A. students are not eligible for departmental assistantships.

Admission Requirements and Deadlines

Application Deadline:
Fall: December 15

Applications are evaluated as they arrive.

APPLY ONLINE to this graduate program to begin the application process and receive your TUid number.

Next, visit http://cla.temple.edu/interfolio/political-science-ma to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

• Scores for the GRE and TOEFL, if applicable, must be reported directly by ETS to institution code 2906.
• Official electronic transcripts must be sent to LaTasha.Goodman@temple.edu or the originals mailed to:

LaTasha R. Goodman, Academic Department Coordinator
Temple University College of Liberal Arts
Dept. of Political Science
1115 W. Polett Walk, 408 Gladfelter Hall (025-22)
Philadelphia, PA 19122-6089

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members familiar with academic competence.

Bachelor’s Degree in Discipline/Related Discipline: A baccalaureate degree is required.

Statement of Goals: Approximately 500 to 1,000 words include your interest in Temple’s program, your research goals, your future career goals, and your academic and research achievements.

NOTE: Students who are ultimately interested in earning a doctoral degree in Political Science at Temple University should apply directly to the Ph.D. program.

Standardized Test Scores:
GRE: Required. Minimum scores of 156 verbal and 148 quantitative are expected.

TOEFL: 100 iBT or 600 PBT minimum

Writing Sample: The writing sample should demonstrate your ability to research and write a scholarly paper. The paper should be no more than 25 pages and fully referenced according to a professional, scholarly style manual.

Transfer Credit: Graduate coursework in Political Science may be transferred from outside the University, provided that the credits were obtained no more than five years prior to the student’s matriculation at Temple and the grades are “B” or better. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:
Number of Didactic Credits Required Beyond the Baccalaureate: 30

Required Courses:

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>POLS 8000</td>
<td>Topics in Research Design</td>
<td>3</td>
</tr>
<tr>
<td>POLS 8001</td>
<td>Political Statistics I</td>
<td></td>
</tr>
<tr>
<td>Select three of the following four subfield core courses:</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>POLS 8101</td>
<td>Government in American Society</td>
<td></td>
</tr>
<tr>
<td>POLS 8201</td>
<td>Comparative Politics</td>
<td></td>
</tr>
<tr>
<td>POLS 8301</td>
<td>International Politics</td>
<td></td>
</tr>
<tr>
<td>POLS 8401</td>
<td>Introduction to Political Theory</td>
<td></td>
</tr>
</tbody>
</table>

Electives
Select two elective courses taken in each of two main fields and one in a third minor field. 1

Total Credit Hours 30

1 Students should consult with their faculty advisor on course selection and examination preparation. Those who plan to continue into the Ph.D. program should take two elective courses in each of the two fields in which they plan to complete written comprehensive exams and one in a third minor field. Students are also allowed to complete their fifth elective by registering for POLS 8002 Qualitative Research Methods or POLS 8003 Political Statistics II.

Culminating Events:

Seminar Paper:

POLS 8401
The seminar paper requirement is met by completing the coursework required in POLS 8000 Topics in Research Design. Students must submit the seminar paper, with the instructors’ comments and grades, to the Graduate Chair. The Graduate Chair must certify that these papers meet the seminar paper requirement (i.e., contain arguments grounded in extensive reference to relevant secondary and/or primary sources). Such certification must be granted before the degree is awarded.

**Contacts**

**Program Web Address:**
https://www.cla.temple.edu/political-science/graduate/

**Department Information:**

Dept. of Political Science  
408 Gladfelter Hall  
1115 W. Polett Walk  
Philadelphia, PA 19122-6089  
lataisha.goodman@temple.edu  
215-204-7796

**Submission Address for Application Materials:**
http://cla.temple.edu/interfolio/political-science-ma

**Submission Address for Official Electronic Transcripts:**
lataisha.goodman@temple.edu

**Submission Address for Official Paper Transcripts:**
LaTasha. R. Goodman, Academic Department Coordinator  
Temple University Dept. of Political Science  
1115 W. Polett Walk, 408 Gladfelter Hall (025-22)  
Philadelphia, PA 19122-6089

**Department Contacts:**

Admissions:  
LaTasha R. Goodman  
lataisha.goodman@temple.edu  
215-204-7796

Graduate Chairperson:  
Hillel David Soifer, Ph.D.  
hsolifer@temple.edu  
215-204-7796

Chairperson:  
Robin Kolodny, Ph.D.  
rkolodny@temple.edu  
215-204-7709

**Political Science, Ph.D.**

**COLLEGE OF LIBERAL ARTS** (https://liberalarts.temple.edu)

**About the Program**

The primary mission of the Political Science Department's graduate program is to prepare students for careers in academia. The department gives equal emphasis to training students for both the research and teaching sides of such a career. Many of our graduates also successfully apply their political science training to non-academic careers. The Ph.D. program offers study in four broadly defined fields: American Politics, Comparative Politics, International Relations, and Political Theory. The Ph.D. program seeks primarily to develop the research skills and substantive knowledge necessary for successful completion of a dissertation.

**Time Limit for Degree Completion:** 7 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** Students complete the degree program through classes offered after 3:00 p.m. The degree program can be completed on a full- or part-time basis.

**Areas of Specialization:** Our particular strengths in American Politics, Comparative Politics, International Relations, and Political Theory are reflected in the brief biographical statements of our Graduate Faculty members’ research and teaching interests:

- In American Politics, faculty teach and conduct research on political behavior, political economy, political institutions, public policy, and urban politics.
- In Comparative Politics, faculty focus on the issues of democratization; public policy making; the role of the state in the economy; and identity politics in European and post-communist states, Latin America, China, and other developing nations.
- In International Relations, faculty emphasize the various theoretical approaches to the study of world politics and the testing of such theories in the areas of international security, international political economy, and the study of international organizations.
- In Political Theory, our strengths cluster around the research areas of late modernity; democratic and normative political theories, especially those pertaining to political questions of social and economic inequality, globalization, identity politics, and social movements; and the relationship between politics and religion.

**Job Prospects:** Most Ph.D. students are preparing for college teaching careers. Our program has an excellent placement record. About three-quarters of recent Ph.D.s hold tenure or tenure-track professorial positions at colleges and universities, many of which are in the Pennsylvania, New Jersey, and Delaware state university and college systems. Other Ph.D.s are in government or research positions.

**Non-Matriculated Student Policy:** Prior to applying for admission, students sometimes want to take courses as non-degree students. Those who wish to do so must first obtain the approval of the Graduate Chair in the Political Science Department to determine if the individual stands a reasonable chance for admission to the M.A. or Ph.D. program. Then, the prospective student must visit the Office of Continuing Studies with transcripts from all institutions attended, including the one that conferred the undergraduate degree, to be enrolled in the coursework.

**Financing Opportunities:**

**Departmental Support.**

The department typically supports a portion of its graduate students as Teaching or Research Assistants. Students may not only assist professors in research and teaching, but also may teach courses on their own. Assistantships include full tuition, a stipend, and health insurance. Assistantships are awarded on a competitive basis. The amount of support available for entering students varies from year
to year, in accordance with the University budget and contractual commitments with the Temple University Graduate Students’ Association (TUGSA). Assisting in research and undergraduate teaching helps graduate students integrate their studies and prepare for examinations, and gives those who plan on pursuing an academic career valuable experience.

In making funding awards, the Graduate Chair and committee place high priority on a student’s academic performance and potential. The following rules and criteria guide the committee’s decisions for continuing students:

• The student must be making normal progress toward meeting her/his degree requirements. Two incompletes disqualify a student from consideration for financial assistance. Advanced students should note that no student will be awarded financial assistance who has not successfully defended a dissertation prospectus within a year of passing the comprehensive examinations.

• To spread support more broadly and to provide an incentive for students to move quickly through coursework and examinations and into the dissertation, the department typically will not provide financial aid for students who have already had five years of support as a Graduate Assistant.

The graduate committee also considers the extent to which a student’s interests and skills fit departmental needs and the student’s financial need.

In applications for financial assistance, students who have had prior teaching experience, either at Temple or elsewhere, should include syllabi of courses they have taught as well as any student assessments that have been taken.

Graduate School Support:
The Graduate School offers Presidential and University Fellowships to the very best applicants on a competitive basis for newly and recently admitted Ph.D. students. Each fellowship offers a stipend plus tuition, for up to two years, plus up to two additional years of support as a Teaching and/or Research Assistant. Presidential Fellowships are for doctoral candidates not yet enrolled at Temple, while University Fellowships are also for doctoral students not yet enrolled at Temple as well as Temple graduate students who have not earned more than 24 graduate credits.

The Graduate School also has a Future Faculty Fellowship Program for students who intend to become college professors. The program provides tuition and a stipend comparable to a University Fellowship. Nominees to this program must be U.S. citizens or permanent residents. Applicants interested in this program should craft their statements of purpose carefully, emphasizing both their commitment to a career in higher education and their eligibility under at least one of these criteria:

• Holding membership in an ethnic or gender group that is underrepresented in the applicant’s discipline;

• Having earned a record of exceptional and continuous leadership ability in substantial college or community activities;

• Demonstrating a strong likelihood of successfully completing a terminal degree program; and/or

• Having overcome exceptional circumstances or significant obstacles in the applicant’s education career.

The department nominates students to the Graduate School for these awards. All application materials for such scholarships, including official report of GRE scores, must arrive at the department no later than January 15. In addition to excellent grades and GRE scores, applicants are expected to have strong letters of recommendation and a statement of purpose that conveys a sense of the applicant’s intellectual evolution and professional trajectory, as well as demonstrates a good fit between the applicant’s scholarly interests and those of the faculty.

Finally, for students nearing completion of their dissertations, the Graduate School offers a limited number of Doctoral Dissertation Completion Grants. Doctoral candidates with approximately six months of anticipated writing to complete their dissertations may apply for this grant. These awards are given on a competitive basis. Students should apply for these awards only when all other department and university support has been exhausted, and when a persuasive case can be made that the dissertation will be completed within the time period of the grant. No more aid will be available after the awarding of such a grant. Interested students should speak to the Graduate Chair at least one term before they plan to apply for the award. Application can be made in the Fall or Spring term.

Admission Requirements and Deadlines
Application Deadline:
Fall: December 15

Applications are evaluated as they arrive.

APPLY ONLINE to this graduate program to begin the application process and receive your TUid number.

Next, visit http://cla.temple.edu/interfolio/political-science-phd to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

• Scores for the GRE and TOEFL, if applicable, must be reported directly by ETS to institution code 2906.

• Official electronic transcripts must be sent to latasha.goodman@temple.edu or the originals mailed to:

LaTasha R. Goodman, Academic Department Coordinator
Temple University College of Liberal Arts
Dept. of Political Science
1115 W. Polett Walk, 408 Gladfelter Hall (025-22)
Philadelphia, PA 19122-6089

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members familiar with academic competence.

Master's Degree in Discipline/Related Discipline: A master's degree is not required.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree is required.

Statement of Goals: Approximately 500 to 1,000 words include your interest in Temple’s program, your research goals, your future career goals, and your academic and research achievements.

Standardized Test Scores:
GRE: Required. Minimum scores of 156 verbal and 148 quantitative are expected.
TOEFL: 100 iBT or 600 PBT minimum

Resume: Current resume required.

Writing Sample: The writing sample should demonstrate your ability to research and write a scholarly paper. The paper should be no more than 25 pages and fully referenced according to a professional, scholarly style manual.

Advanced Standing: For students entering the Ph.D. program who have received an M.A. degree elsewhere, up to 18 credits may be applied to the doctoral program, provided they are relevant to the department’s required courses. These credits must have been obtained no more than five years prior to the student’s matriculation at Temple and the grades must be “B” or better. The Graduate Chair decides which courses students may transfer. As a general rule, transfer students should expect that they will have to complete much of the required coursework in residence. Students transferring into the Ph.D. program should note that it is advisable to take courses from Temple faculty in their major and minor fields before taking the Ph.D. Qualifying Exams in those two fields.

Program Requirements

General Program Requirements:
Number of Credits Required to Earn the Ph.D.: 46, including 30 credits at the master's level and 16 at the doctoral level

Required Courses:

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<tr>
<th>Code</th>
<th>Title</th>
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<tr>
<td>POLS 8000</td>
<td>Topics in Research Design</td>
<td>3</td>
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<tr>
<td>POLS 8001</td>
<td>Political Statistics I</td>
<td>3</td>
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<tr>
<td>POLS 8002</td>
<td>Qualitative Research Methods</td>
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<tr>
<td>POLS 8003</td>
<td>Political Statistics II</td>
<td>3</td>
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<tr>
<td>Core Courses</td>
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<tr>
<td>POLS 8401</td>
<td>Introduction to Political Theory</td>
<td>3</td>
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<tr>
<td>POLS 8601</td>
<td>Teaching Methods</td>
<td>1</td>
</tr>
<tr>
<td>Select two of the following:</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>POLS 8101</td>
<td>Government in American Society</td>
</tr>
<tr>
<td></td>
<td>POLS 8201</td>
<td>Comparative Politics</td>
</tr>
<tr>
<td></td>
<td>POLS 8301</td>
<td>International Politics</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select three elective courses in the first field, two elective courses in a second field, and one free elective. ¹</td>
<td>18</td>
<td></td>
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<tr>
<td>Non-Didactic Courses</td>
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<tr>
<td>POLS 9994</td>
<td>Preliminary Examination Preparation</td>
<td>1</td>
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<tr>
<td>POLS 9998</td>
<td>Pre-Dissertation Research</td>
<td>3</td>
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<tr>
<td>POLS 9999</td>
<td>Dissertation Research ²</td>
<td>2</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td>46</td>
<td></td>
</tr>
</tbody>
</table>

¹ Elective courses in the two fields should be taken in areas in which the student plans to complete written comprehensive exams. The free elective may be taken in advanced methods or another substantive course. Taking more than two independent study courses requires the permission of the Graduate Chair.

² Students must register for POLS 9999 while writing their dissertation to remain in good standing in the program – unless they file for a leave of absence. Students usually register for 1 credit of POLS 9999 for every term they are writing the dissertation.

Culminating Events:
Qualifying Examinations:
Qualifying Exams are given twice each year near the beginning of each term within a designated period of time. Application must be made to take the exams before the posted deadline by students who:

- Plan to apply for the Ph.D. program or those who were directly admitted into the Ph.D. program;
- Have completed all didactic coursework; and
- Have no incompletes on their transcript regardless of how many credits have been completed. In practice, all incompletes must be converted to a letter grade by the date on which the application to take the examinations is due.

Students take the Ph.D. Qualifying Examinations in two of four fields: American Politics, Comparative Politics, International Relations, and Political Theory. The exams must be taken in both fields within a single exam period. The examinations include both written and oral parts.

Each field examination is conducted by at least three faculty selected from the subfield by the Graduate Chair in consultation with the Subfield Coordinator. The examiners have joint responsibility for writing and grading the field examination. In this exam, students must demonstrate depth and breadth of knowledge and intellectual sophistication across their main intended Ph.D. field and a second field. They should also be prepared to interpret political phenomena within the context of various theories; use empirical data to illuminate concepts; and identify gaps in knowledge.

Students are encouraged to meet with faculty in their fields to discuss the general areas of the exams’ content to ensure that they have accurately identified key theories, concepts, and literature. Professors may make sample questions, previous exams, or special reading lists available as study aids. In addition, core reading lists in each field may be available from the Graduate Coordinator. The lists represent a minimum of representative readings with which a candidate should be familiar.

Oral examinations for students who have passed their written exams are scheduled soon after the student receives notice of the passing of the written exam. Except under extraordinary circumstances, students should take the oral exams in the same term as their written exams. Each oral examination committee consists of the written examiners. The oral exam allows the candidate to respond to the examiners’ comments on the written exam and to demonstrate her/his ability to connect the specific issues addressed in the exam to other related areas of inquiry within the intended Ph.D. field and second field. Students are urged to carefully review the examiners’ comments on their written preliminary examinations in preparation for the orals.

In the oral exam (as well as in the oral defense of a dissertation discussed below), the student must be able to converse in English adequately for professional purposes. If, in the judgment of a majority of committee members, the student is not demonstrating this ability, the examination is suspended so that the student can take additional training in the English language.

The Graduate School specifies that any student who fails all or part of these examinations twice is automatically dismissed from the program.
Dissertation Proposal:
In consultation with the Graduate Chair, the candidate secures a principal dissertation advisor. This person must be a member of the Political Science Graduate Faculty and specialize in the area of the dissertation topic. Preferably in the term immediately after passing the Ph.D. Qualifying Exam, and no more than two terms thereafter, the candidate takes POLS 9998, the dissertation proposal preparation course. The course is offered every Spring under the guidance of the Graduate Chair. The purpose of the course is to launch students on writing their dissertation proposals and prepare them for writing the dissertation. Regardless of whichever term the student registers, students are required to do the following:

1. Under the guidance of their advisor (or if different from the advisor, the faculty member most likely to supervise their dissertation) and Graduate Chair, begin exploring possible dissertation topics through research and reading.
2. Attend seminar meetings in the Spring term under the supervision of the Graduate Chair. At these sessions, the Graduate Chair presents information relevant to the development and preparation of dissertation proposals and chapters. Students are required to make presentations that address problems encountered in the proposal and dissertation writing process and strategies for overcoming them. Students who already have taken POLS 9998 are invited back to attend and participate in subsequent seminars and report on their progress and share their experiences with the students enrolled in the course.

In consultation with the dissertation advisor, the student assembles a Doctoral Advisory Committee. The Doctoral Advisory Committee is to be composed of at least three Temple Graduate Faculty, at least two of whom have their primary presidential appointment in Political Science. The composition of the Doctoral Advisory Committee must be formally approved by the Graduate Chair. A student wishing to pursue a dissertation on a topic that requires supplementing the expertise of the department's faculty may have to seek a committee member from another department. The student has the burden of convincing the Graduate Chair that a committee with adequate expertise can be established with faculty willing to serve.

Students are required to submit a preliminary proposal not to exceed five double-spaced pages. The preliminary proposal should address both the question(s) to be examined and a justification for why those questions warrant a major study. Students are expected to show why these questions are or should be important to political scientists as well as to citizens. Only after the Doctoral Advisory Committee is satisfied that the student has written a persuasive preliminary proposal will the student be permitted to write a longer proposal, if the committee believes a longer proposal is warranted.

Successful completion of POLS 9998 culminates in the defense of the dissertation prospectus before the Doctoral Advisory Committee. The dissertation prospectus, consisting of a research design and literature review, should be defended and accepted by the full membership of the committee within two terms after completion of Ph.D. coursework. No student is awarded financial assistance who has not successfully defended a prospectus within a year of completing their Ph.D. coursework. Students who fail to submit an approved dissertation proposal within two years of completing their Ph.D. coursework are subject to dismissal from the program. An approved proposal is a contract between the student and the Doctoral Advisory Committee. After approval, any significant theoretical or methodological change in the substantive direction of the project must be approved by the committee.

Once the prospectus is successfully defended, the student is advanced to candidacy. The Doctoral Advisory Committee must confer at least once a year with the student to review progress and provide advice. Students should take the initiative to schedule these exchanges and ensure that written faculty comments on the exchange be placed in their graduate file.

Dissertation:
A doctoral dissertation should demonstrate that the candidate can conduct scholarly research with a high level of professional competence. The dissertation should constitute a distinctive contribution to knowledge in Political Science. Normally, it should outline theoretical knowledge in some field of Political Science; propose a question or hypothesis that is linked to the theory; and provide empirical data to illuminate the theoretical issues in a convincing manner.

The Graduate School requires that students working on a dissertation register for POLS 9999 in order to maintain status as an active graduate student.


After the principal dissertation advisor and the Doctoral Advisory Committee have reviewed the completed dissertation draft, a fourth reader from outside the department who has not been involved with the dissertation previously must be selected by the dissertation committee chair and the Graduate Chair. (Students may suggest a reader.) This reader must be a Graduate Faculty member from another department at Temple or from another university who has the qualifications necessary to act as a fair judge of the dissertation's scholarly merit. As a member of the newly formed Dissertation Examining Committee, this reader should receive a completed draft of the dissertation one month before the anticipated dissertation defense date. Readers who are from outside of Temple University must submit a curriculum vitae and be approved by the Graduate School at least two weeks prior to the oral defense.

When a majority of the Dissertation Examining Committee has judged in writing that the dissertation is ready to be defended, a defense date can be scheduled. A defense is open to the university community and to the student's family; others who wish to attend must obtain the written permission of the student and the Dissertation Examining Committee. The defense must be announced publicly at least 10 working days in advance. Notice must be sent to all faculty members in the department and to the Graduate School. The public announcement of the defense should include an abstract of the dissertation.

The oral defense must be chaired by a member of the committee other than the dissertation advisor. The oral defense should demonstrate that:

- the dissertation is commensurate with the standards for original research in Political Science;
- the ethics and standards governing Political Science research have been followed;
- the research and appropriate methodology have been mastered; and
- the candidate has an understanding of the relationship of this work to the broader field in which it is lodged.
Passing the examination requires a vote of approval by more than half of the full membership of the Dissertation Examining Committee. If a dissertation is approved but revisions are required, the revisions must be submitted to the Graduate School in final form within 30 days of the defense. Otherwise, the defense is nullified and a new oral defense must be scheduled. After the final draft of the dissertation has been approved by the dissertation chair, it must be submitted to the Graduate Coordinator and to the Graduate School by uploading the final document to www.etdadmin.com/cgi-bin/school?siteld=171 (http://www.etdadmin.com/cgi-bin/school?siteld=171).

Contacts

Program Web Address:
https://www.cla.temple.edu/political-science/graduate/

Department Information:
Dept. of Political Science
408 Gladfelter Hall
1115 W. Polett Walk
Philadelphia, PA 19122-6089
latasha.goodman@temple.edu
215-204-7796

Submission Address for Application Materials:
http://cla.temple.edu/interfolio/political-science-phd

Submission Address for Official Electronic Transcripts:
latasha.goodman@temple.edu

Submission Address for Official Paper Transcripts:
LaTasha R. Goodman, Academic Department Coordinator
Temple University Dept. of Political Science
1115 W. Polett Walk, 408 Gladfelter Hall (025-22)
Philadelphia, PA 19122-6089

Department Contacts:
Admissions:
LaTasha R. Goodman
latasha.goodman@temple.edu
215-204-7796

Graduate Chairperson:
Hillel David Soifer, Ph.D.
hsoifer@temple.edu
215-204-7796

Chairperson:
Robin Kolodny, Ph.D.
rkolodny@temple.edu
215-204-7709

Psychological Research, M.S.

COLLEGE OF LIBERAL ARTS (https://liberalarts.temple.edu)

About the Program

The M.S. in Psychological Research is designed to provide a research-intensive experience, advanced coursework, and professional development to Temple University students completing their undergraduate degree in Psychology who intend to pursue doctoral studies in any of the academic psychology disciplines. Students in the 32-credit program work with a faculty sponsor to develop and carry out a master’s project; complete graduate-level coursework in methodology, statistics, ethics, and topical seminars; and engage in professional development activities that prepare them for doctoral-level studies and enhance their applications to Ph.D. programs.

The M.S. in Psychological Research is separate and distinct from the Department of Psychology’s Ph.D. program and does not lead to entrance into the Psychology Ph.D. program. Prospective doctoral students must apply directly to the Ph.D. program.

Time Limit for Degree Completion: 2 years

Campus Location: Main

Full-Time/Part-Time Status: Full-time study is required.

Interdisciplinary Study: The program encourages interdisciplinary coursework.

Job Prospects: Graduates of the M.S. program in Psychological Research gain skills that enhance their applications to doctoral programs in academic psychology. Positions for individuals with an M.S. in Psychological Research are also available in a number of settings, including universities, private research and consulting organizations, non-profits, and marketing.

Non-Matriculated Student Policy: Master’s Directed Research courses, including PSY 5791 and PSY 5891, and 8000-level courses are not open to non-matriculated students. Permission of the instructor is required for non-matriculated students to take PSY 5003 and PSY 5104.

Financing Opportunities: Assistantships are not available for the M.S. program.

Admission Requirements and Deadlines

Application Deadline:
Fall: March 1

Applications are not evaluated until after the deadline has passed.

If you are currently an undergraduate student in Psychology at Temple University, APPLY ONLINE to this graduate program. The M.S. program in Psychological Research is open only as an accelerated 4+1 program for Psychology undergraduate students at Temple University. It is expected that the program will open to non-Temple students in the future, but that time frame has not yet been determined.

Next, visit http://cla.temple.edu/interfolio/psychological-research-ms to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

- Scores for the GRE and TOEFL, if applicable, must be reported directly by ETS to institution code 2906.
- Official electronic transcripts must be sent to vallens@temple.edu or the originals mailed to:
  Vanessa Allen-Smith, Graduate Coordinator
  Temple University College of Liberal Arts
  Dept. of Psychology
  1701 N. 13th Street, 653 Weiss Hall (265-67)
  Philadelphia, PA 19122-6085

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members familiar with the applicant’s academic competence.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree (B.A., A.B., or B.S.) in Psychology is required.

GPA: 3.67 minimum required in both Psychology and overall for admissions consideration. Meeting the minimum does not, however, guarantee admission.

Statement of Goals: In approximately 500 to 1,000 words, state your reasons for pursuing a master's degree, your current research interests, your research experience, and your future career goals.

Standardized Test Scores:
GRE: Required. Minimum scores are 150 (new test) or 450 (old test) verbal; 150 (new test) or 630 (old test) quantitative; and 4 in analytical writing.

TOEFL: 105 iBT or 620 PBT minimum

Writing Sample: An academic writing sample must be submitted. It is used to assess the applicant’s ability to complete graduate-level written work and produce a high-quality master's project paper.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 32

Required Courses:

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<th>Year</th>
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<tr>
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<td>PSY 5003 Advanced Statistics</td>
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<td></td>
<td>PSY 5791 Master's Directed Research I</td>
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<th>PSY 5104 Ethics and Ethical Conflicts in Psychological Science</th>
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<td>PSY 5891 Master's Directed Research II</td>
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<th>Year</th>
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<tr>
<td></td>
<td>PSY 8015 Teaching of Psychology</td>
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<td>PSY 8016 Professional Development Seminar</td>
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<tr>
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<td>PSY 9991 Research</td>
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</table>

8000-level Statistics or Methodology course: 3

Spring

- PSY 9991 Research 4
- Elective¹ 3

8000-level Topical Seminar: 3

Term Credit Hours: 10

Total Credit Hours: 32

¹ The elective must be a graduate course at the 5000 to 8000 level, but may be taken from any school or college.

Other: M.S. students are exposed to a broad range of current research by attending the department’s Colloquium and TILES lecture series to hear talks by distinguished researchers from other universities. They are also required to participate in lab meetings and journal clubs, and to attend regular advising meetings to select and apply to appropriate doctoral programs. Students who postpone application to doctoral programs receive guidance for a master’s level job search and applications.

Culminating Event:
Master's Project:
A four-course sequence of directed research immerses the student in carefully planned and executed research, culminating in a publishable paper. Throughout the sequence, students are expected to participate in and contribute to the advisor’s program of research. Activities include data analyses, literature reviews, programming experiments, and/or recruitment. During the first term, students work with their advisors to develop a research proposal and analysis plan for the master’s project; a protocol is submitted to the Institutional Review Board (IRB) for approval. Students become familiar with the methods, measures, and apparatus in the advisor’s lab. During the second term, students begin data collection for the master’s project and start work on a comprehensive literature review. The third term focuses on continued data collection, preliminary analyses, completion of the literature review, and a possible poster submission. During the fourth term, data collection, cleaning, and analyses are completed, and the results are written up in an APA manuscript.

All students complete the master’s project and submit their research for publication and/or presentation at a conference. Students who do not complete the final project requirement by the end of the Spring term of Year 2 may register for additional research credits in the Summer term and submit their master’s project no later than July 15 to be eligible for August graduation.

Contacts

Program Web Address:
http://www.cla.temple.edu/psychology/undergraduate/#psychology-5-year-masters-program-1

Department Information:
Dept. of Psychology
653 Weiss Hall
1701 N. 13th Street
Philadelphia, PA 19122-6085
pshapiro@temple.edu
215-204-7321
Submission Address for Application Materials:
http://cla.temple.edu/interfolio/psychological-research-ms

Submission Address for Official Electronic Transcripts:
vallens@temple.edu

Submission Address for Official Paper Transcripts:
Vanessa Allen-Smith, Graduate Coordinator
Temple University Dept. of Psychology
1701 N. 13th Street, 653 Weiss Hall (265-67)
Philadelphia, PA 19122-6085

Department Contacts:
Admissions:
Pamela Shapiro
pshapiro@temple.edu
215-204-7310

Director of Graduate Studies:
Dr. Deborah Drabick
deborah.drabick@temple.edu
215-204-0957

Chairperson:
Dr. Peter Marshall
peter.marshall@temple.edu
215-204-7630

Psychology, Ph.D.

COLLEGE OF LIBERAL ARTS (https://liberalarts.temple.edu)

About the Program
The Psychology program offers advanced study leading to the doctoral degree. Training is directed toward excellence in scholarship, research, teaching, and practical applications. The focus of the Psychology Ph.D. program varies depending on the area of specialization into which the student enters. Graduates go on to positions as research scientists, teachers, and applied specialists.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: Full-time study is required.

Interdisciplinary Study: The program encourages interdisciplinary coursework.

Ranking: Over the years, the program has been consistently ranked among the very best by all evaluating agencies.

Accreditation: The American Psychological Association has accredited the Clinical Psychology area of specialization. Other area emphases do not undergo accreditation.

Areas of Specialization: The four areas of specialization include:
- Brain and Cognitive Sciences
- Clinical Psychology
- Developmental Psychology
- Social Psychology

Job Prospects: The program is dedicated to producing well-trained psychologists with the Ph.D. who work in academic and applied settings.

Licensure: The field of Clinical Psychology requires licensure for its practice.

Non-Matriculated Student Policy: The permission of the instructor is required for non-matriculated students to take Ph.D. courses. The exception is 8000-level courses, which are not open to non-matriculated students.

Financing Opportunities: Both Teaching and Research Assistantships carry a stipend, full tuition remission (up to 12 credits per term depending on year and specialization), and health insurance benefits. The principal duties of a Teaching Assistant (TA) include assisting faculty members in classroom (field and observatory) instruction, conducting tutorials and discussion sections, and grading quizzes. A Research Assistant (RA) is expected to devote 20 hours per week on average to research obligations. An RA is assigned to a faculty member or principal investigator who is working on a specific research project. The appropriate subjects are determined by consultation between the student and the student's research and academic advisors.

Admission Requirements and Deadlines

Application Deadline:
Fall: December 1

Applications are not evaluated until after the deadline has passed.

Application is made solely online:

- Applicants to the specializations in Brain and Cognitive Sciences, Developmental Psychology, or Social Psychology must apply via the Centralized Application Service for Graduate Psychology (PSYCAS), which is accessed at https://psycas.liaisoncas.com/.
- To apply for the Clinical Psychology specialization, complete the Temple University online application (http://www.temple.edu/apply/common/appcheck.asp) to receive your TUid number. Next, visit http://cla.temple.edu/interfolio/psychology-phd to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:
  a. Scores for the GRE and TOEFL, if applicable, must be reported directly by ETS to institution code 2906.
  b. Official electronic transcripts must be sent to vallens@temple.edu or the originals mailed to:
     Vanessa Allen-Smith, Graduate Coordinator
     Temple University College of Liberal Arts
     Dept. of Psychology
     1701 N. 13th Street, 653 Weiss Hall (265-67)
     Philadelphia, PA 19122-6085

Letters of Reference:
Number Required: 3
From Whom: Letters of recommendation should be obtained from college/university faculty members familiar with the applicant's academic competence. Referees for applicants to the specializations in Brain and Cognitive Sciences, Developmental Psychology, or Social Psychology submit their recommendations through https://psycas.liaisoncas.com/. Referees for applicants to the Clinical Psychology specialization submit their recommendations at http://cla.temple.edu/interfolio/psychology-phd.

Coursework Required for Admission Consideration: Applicants to the doctoral program must hold a B.A. or B.S. degree and must have completed at least four 3-credit courses in Psychology, including one laboratory course. A Statistics course is also required, and a Natural Sciences laboratory course is recommended.

Master's Degree in Discipline/Related Discipline: A master's degree is not required.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree in Psychology is strongly recommended. Depending on the area of interest, a bachelor's in a Biology-related discipline may be appropriate.

Statement of Goals: In approximately 500 to 1,000 words, state your interest in Temple's program, your research goals, your future career goals, and your academic and research achievements.

Standardized Test Scores:
GRE: Required. Minimum scores are 153 (new test) or 500 (old test) verbal; 151 (new test) or 650 (old test) quantitative; and 304 (new test) or 1150 (old test) total GRE.

GRE Subject Exam in Psychology: Strongly recommended

TOEFL: 105 iBT or 620 PBT minimum

Advanced Standing: A student enrolled in the Psychology Ph.D. program may, after satisfactory completion of the initial term, and with the approval of the Director of Graduate Studies in Psychology, transfer as many as 9 credits of coursework taken elsewhere. To be so approved, the courses must be deemed appropriate to stand as part of the student's training in the Ph.D. program, and the student must have received a grade of "B" or higher in the course(s). Final approval of advanced standing credits is given by the Office of the Dean, College of Liberal Arts, on recommendation of the Director of Graduate Studies in Psychology. The maximum number of advanced standing credits awarded is 9.

Program Requirements

General Program Requirements:
Number of Credits Required to Earn the Degree: 32-68, depending on area of specialization:

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<tr>
<th>Code</th>
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<td>Brain and Cognitive Sciences</td>
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<tr>
<td>Clinical Psychology</td>
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<tr>
<td>Developmental Psychology</td>
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<td>Social Psychology</td>
<td>2</td>
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</tbody>
</table>

1 For greater detail on requirements by area of specialization, consult the Department of Psychology Graduate Handbook, found at https://docs.google.com/document/d/1hoxVN1olZGB10_9N0k8yVxkRDJLcMvYGTp-Nwgbm94/edit.

2 39 credits required with the Neuroscience specialization.

3 The bio-integrative course is selected from the departmental list of approved courses.

4 A minimum of 6 credits is required, with at least 2 of the 6 credits required to be in PSY 9999. The remaining 4 credits can be taken in any combination of PSY 9994, PSY 9998, and PSY 9999. At least one credit of PSY 9999 must be taken in the semester/summer session of graduation.

Internship: An internship is required for the Clinical Psychology area of specialization.

Culminating Events:
Preliminary Examination:
The purpose of the preliminary examination is to demonstrate critical and interpretive knowledge in a specialized area of Psychology. The
exam should be modeled after published literature reviews in the field and evaluated by the criteria applied to reviews that are submitted for publication to scholarly journals. The examination evaluates the student's ability to apply specific research foci to anticipated problems in Psychology. The student must demonstrate a high level of oral and written competency in reviewing, synthesizing, and evaluating an important topic in the field of Psychology.

The preliminary examination is generally completed by the end of the third year of study. The subject areas are determined, in advance, by the student and the Doctoral Advisory Committee. The Doctoral Advisory Committee must include at least three Graduate Faculty members from Temple's Psychology Department. The committee may be expanded to include other Temple Presidential faculty (from inside or outside the Department) and/or doctorally prepared experts from outside the University, provided that a majority of the members of the committee are members of Temple's Graduate Faculty. The Doctoral Advisory Committee evaluates the examination. Each member votes to pass or fail the student. In order to pass, a majority of the committee members must agree that the exam has been satisfactorily completed. The examination is defended orally following an evaluation of the written document.

Students who are preparing to write their preliminary examinations should confirm a time and date with the Chair of the Doctoral Advisory Committee and notify all members of their training program.

Proposal:
The dissertation proposal demonstrates the student's knowledge of and ability to conduct the proposed research. The proposal should consist of the following:

1. the context and background surrounding a particular research problem;
2. an exhaustive survey and review of literature related to the problem; and
3. a detailed methodological plan for investigating the problem.

The Doctoral Advisory Committee evaluates and approves the proposal or requests modifications by the student.

Dissertation:
The doctoral dissertation is an original empirical study that makes a significant contribution to the field of Psychology. It should expand the existing knowledge and demonstrate both the student's grasp of research methods and a mastery of her/his primary area of interest. Dissertations should be rigorously investigated; uphold the ethics and standards of the field; demonstrate an understanding of the relationship between the primary area of interest and the broader field of Psychology; and be prepared for publication in a professional journal.

The Dissertation Examining Committee evaluates the student's dissertation and oral defense, including the student's ability to express verbally her/his research question, methodological approach, primary findings, and implications. The Dissertation Examining Committee consists of the Doctoral Advisory Committee plus at least three additional doctorally prepared individuals. The majority of the individuals on the Committee must be members of the Temple University Graduate Faculty. The Dissertation Examining Committee votes to pass or fail the dissertation and the defense at the conclusion of the public presentation.

If a student needs to change a member of either the Doctoral Advisory Committee or the Dissertation Examining Committee, the new member must be approved by the Departmental Chair and registered with the department's Graduate Secretary and the Graduate School.

Students who are preparing to defend their dissertation should confirm a time and date with their Dissertation Examining Committee and register with the Graduate Secretary at least 15 days before the defense is to be scheduled. The Graduate Secretary arranges the time, date, and room within two working days, and forwards to the student the appropriate forms.

After the Graduate Secretary has arranged the time, date, and room for the defense, the student must send to the Graduate School a completed "Announcement of Dissertation Defense" form, found in TUportal under the Tools tab within “University Forms,” at least 10 working days before the defense. The Department posts announcements of the defense, and the Graduate School lists the defense on its website.

Contacts
Program Web Address:
http://www.cla.temple.edu/psychology/graduate/

Department Information:
Dept. of Psychology
653 Weiss Hall
1701 N. 13th Street
Philadelphia, PA 19122-6085
deborah.drabick@temple.edu
215-204-7321

Submission Address for Materials for Applicants to Brain and Cognitive Sciences, Developmental Psychology, and Social Psychology:
https://psycas.liaisoncas.com/

Submission Address for Official Electronic Transcripts for Applicants to Clinical Psychology:
vallens@temple.edu

Submission Address for Official Paper Transcripts for Applicants to Clinical Psychology:
Vanessa Allen-Smith, Graduate Coordinator
Temple University Dept. of Psychology
1701 N. 13th Street, 653 Weiss Hall (265-67)
Philadelphia, PA 19122-6085

Department Contacts:
Clinical Psychology Admissions Director:
Dr. Robert Fauber
rfauber@temple.edu
Public Policy, M.P.P.

COLLEGE OF LIBERAL ARTS (https://liberalarts.temple.edu)

About the Program

The Master of Public Policy (https://www.cla.temple.edu/public-policy/graduate) (M.P.P.) degree provides training for individuals who seek careers in the public sector or in private and non-profit organizations that work on a continuous basis with government agencies. The M.P.P. curriculum is designed to provide students with the technical and analytical skills to be able to develop and assess proposed public policies and evaluate the effectiveness of programs and activities that governments at the federal, state, and local levels undertake. The M.P.P. also develops students’ appreciation for the political and institutional contexts in which issues reach the policy agenda and policies are formulated, adopted, implemented, and evaluated.

Time Limit for Degree Completion: 3 years; part-time students may apply for extensions, if needed

Campus Location: Center City

Full-Time/Part-Time Status: Students complete the degree program through classes offered after 5:00 p.m. The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: Courses are taken in Political Science, Economics, Geography and Urban Studies, and other disciplines as needed. Students may also pursue the M.P.P. as a dual degree with the Master of Public Health (M.P.H.). Applicants for the dual degree must apply to each program separately and should consult the M.P.P. website for further details.

Areas of Specialization: Students can focus on public policy analysis or public management and use their electives to specialize in a specific policy area.

Job Prospects: Students in the M.P.P. program plan to seek entry-level jobs in government agencies as civil servants or in private and non-profit organizations that work with federal, state, and local governments, or may already have experience in government, private, or non-profit organizations and seek training and credentials to further develop their careers.

Non-Matriculated Student Policy: Prior to applying for admission, students sometimes want to take courses as non-degree students. Students are permitted to take up to 9 credits on a non-matriculated basis. If admitted to the program, students may have that coursework, with a grade of “B” or better, apply toward the M.P.P. degree. Individuals who wish to take courses as non-matriculated students must first obtain the approval of the Director of the M.P.P. program to determine if the individual stands a reasonable chance for admission to the program. Next, the prospective student must visit the Office of Continuing Studies with transcripts from all institutions attended, including the one that conferred the undergraduate degree, to be enrolled in the coursework.

Financing Opportunities: M.P.P. students are not eligible for departmental assistantships, but may apply for a limited number of partial scholarships available from the program.

Admission Requirements and Deadlines

Application Deadline:

Fall:
- March 1 – Application Deadline
- July 1 – Late Application Deadline

Spring:
- November 1 – Application Deadline
- December 7 – Late Application Deadline

Applications are processed as they are received. Late applications may be considered for admission.

APPLY ONLINE to this graduate program to begin the application process and receive your TUid number.

Next, visit http://cla.temple.edu/interfolio/public-policy-mpp to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

- Scores for the TOEFL, if applicable, must be reported directly by ETS to institution code 2906.
- Official electronic transcripts must be sent to mpp@temple.edu or the originals mailed to:
  
  Jeff Antsen, M.P.P. Assistant Director
  Temple University College of Liberal Arts
  Dept. of Political Science/M.P.P.
  1115 W. Polett Walk, 424 Gladfelter Hall (025-22)
  Philadelphia, PA 19122-6089

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members familiar with academic competence. For applicants with extensive administrative experience, two of the letters
may come from supervisors or colleagues in the agency or organization where the applicant has been employed.

**Bachelor’s Degree in Discipline/Related Discipline:** A baccalaureate degree is required.

**Statement of Goals:** Approximately 500 to 1,000 words include your interest in Temple’s program, your future career goals, and your academic and work experience.

**Standardized Test Scores:**
TOEFL: 100 iBT or 600 PBT minimum

**Resume:** Current resume required.

**Transfer Credit:** Graduate coursework in public policy or public administration may be transferred from outside the University, provided that the credits were obtained no more than five years prior to the student’s matriculation at Temple; the grades are “B” or better; and the course(s) for transfer are equivalent to those in Temple’s curriculum. The maximum number of credits a student may transfer is 6.

## Program Requirements

### General Program Requirements:

**Number of Credits Required Beyond the Baccalaureate:** 36

### Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 8122</td>
<td>Economics of the Public Sector</td>
<td>3</td>
</tr>
<tr>
<td>GUS 5165</td>
<td>Community Based Program Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>POLS 8001</td>
<td>Political Statistics I</td>
<td>3</td>
</tr>
<tr>
<td>PLCY 8118</td>
<td>The Policy-Making Process</td>
<td>3</td>
</tr>
<tr>
<td>PLCY 8119</td>
<td>Policy Analysis</td>
<td>3</td>
</tr>
<tr>
<td>PLCY 8123</td>
<td>Bureaucracy and Public Management</td>
<td>3</td>
</tr>
<tr>
<td>PLCY 8127</td>
<td>Policy Analysis Project</td>
<td>3</td>
</tr>
<tr>
<td>PLCY 8128</td>
<td>State and Local Budgeting</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
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<td>9</td>
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<tr>
<td>Internship</td>
<td></td>
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<tr>
<td>PLCY 5085</td>
<td>Internship in Public Policy</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credit Hours:** 36

### Culminating Events:

**Seminar Paper:**
The Policy Analysis Project, completed in PLCY 8127, is undertaken in the student's last term in the M.P.P. program. Students produce an original, full-length policy analysis for a client. Students attend a weekly seminar to report on their progress at each stage in the development of their policy analysis, receive feedback from other seminar participants, and provide advice to other students in the seminar.

## Contacts

**Program Web Address:**

https://www.cla.temple.edu/public-policy/graduate/

**Department Information:**
Dept. of Political Science

424 Gladfelter Hall
1115 W. Polett Walk
Philadelphia, PA 19122-6089
mpp@temple.edu
215-204-7817

**Submission Address for Application Materials:**

http://cla.temple.edu/interfolio/public-policy-mpp

**Submission Address for Official Electronic Transcripts:**

mpp@temple.edu

**Submission Address for Official Paper Transcripts:**

Jeff Antsen, M.P.P. Assistant Director
Temple University Dept. of Political Science/M.P.P.
1115 W. Polett Walk, 424 Gladfelter Hall (025-22)
Philadelphia, PA 19122-6089

**Department Contacts:**

**Admissions:**
Gary Mucciaroni
Director, M.P.P. Program
mpp@temple.edu
215-204-6195

**Religion, M.A.**

**COLLEGE OF LIBERAL ARTS**

**About the Program**
The Department of Religion at Temple University offers a 30-credit master's program. For those seeking to qualify for the Ph.D. program at Temple University or other leading universities, it offers intensive training in research methods and in special fields of concentration in religion studies. (Note: Admission to the Temple Ph.D. program requires a separate application and the completion of qualifying examinations not required for the M.A. degree.) For those who plan to teach religious studies in community colleges or high schools, it provides advanced training in methods of research and in-depth study of the world’s major religious traditions. For those in various forms of religious ministry, it offers post-graduate training and exposure to the newest research methods and developments for use in understanding their own or other religious and cultural traditions. For those who wish to bring cultural and cross-cultural analytical tools to professions such as business, government, journalism, medicine, and social work, it provides additional training in research methods and graduate-level study in the major world religious and cultural traditions. For qualified persons in the general public, it allows the opportunity to acquire competence in the study of religions, values, and cultures broadly defined, and in areas of special interest to the student.

**Time Limit for Degree Completion:** 3 years

**Campus Location:** Main
Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Areas of Specialization: The M.A. program offers two concentrations, each of which allows students to choose between the Thesis Option and the Portfolio Option:

- Religion, Values and Global Cultures, which is built around our Foundations seminars in the world's religious traditions and advanced seminars that permit further study in various Western and Asian religious and values traditions. Courses in the other track may be taken if they draw on materials from one of these religious traditions.
- Religion, Values and Public Life, which is built around our Foundations seminars in the historical, philosophical, and social-science methods of study in the field of Religion, together with advanced seminars in various areas of the interaction of religion and values in public life, such as interfaith dialogue, race/gender/sexuality and religion, religion and ethics, and religion and the political process. Students taking courses in this concentration may also take courses on related topics in world religions.

Upon entering the program, students choose their area of concentration. While admission requirements and procedures are identical, requirements for the degree vary.

Job Prospects: The master's degree at Temple University is viewed as an enhancement of knowledge about religion for those already employed in various professional capacities or as the foundation for pursuit of a Ph.D. degree.

Non-Matriculated Student Policy: Non-matriculated students may complete three graduate courses before being admitted into the degree program. Credit toward a subsequent degree program at Temple University is limited to 9 credits.

Financing Opportunities: University Fellowships, Graduate Assistantships, and Academic Internships are ordinarily reserved for Ph.D. students.

**Admission Requirements and Deadlines**

**Application Deadline:**

- Fall: January 15

Applications are evaluated together after the deadline.

**APPLY ONLINE to this graduate program** to begin the application process and receive your TUid number.

Next, visit [http://cla.temple.edu/interfolio/religion-ma](http://cla.temple.edu/interfolio/religion-ma) to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

- Scores for the GRE and TOEFL, if applicable, must be reported directly by ETS to institution code 2906.
- Official electronic transcripts must be sent to relgrad@temple.edu or the originals mailed to:

  Jemina Quarles, Graduate Coordinator
  Temple University College of Liberal Arts
  Dept. of Religion
  1114 W. Polett Walk, 614 Anderson Hall (022-28)

- Language Examination: Reading knowledge of a language relevant to the area of focus is required. However, at the discretion of the student's
supervisory committee, this requirement can be waived for those who are planning to do graduate work that does not require foreign language proficiency.

**Culminating Events:** No later than upon completion of her/his first 18 credits of coursework in either the Religion, Values and Global Cultures concentration or the Religion, Values and Public Life concentration, the student must choose either the thesis or portfolio option:

- The Thesis Option is recommended for, but not limited to, students intending to apply to a doctoral program or planning to teach at the college level. Six credits must be taken in a 3-credit Independent Study that prepares the student to register the following term for a 3-credit M.A. thesis project under the direction of a thesis advisor. Reading knowledge of a language relevant to the thesis topic and oral defense of the thesis are required.
- The Portfolio Option is recommended for students to augment their primary area of experience and professional training in fields other than Religion.

Upon choosing an option, the student then selects an advisor for the final project who has primary responsibility for supervising the student's work for the remainder of the program and is the primary reader of the thesis or portfolio. This choice must be approved by the Graduate Studies Committee.

**Thesis:**
For the Thesis Option, a thesis is required.

Note that for the Portfolio Option, successful completion of coursework is required to earn the degree.

**Contacts**

**Program Web Address:**
http://www.cla.temple.edu/religion/graduate

**Department Information:**
Dept. of Religion  
614 Anderson Hall  
1114 W. Polett Walk  
Philadelphia, PA 19122-6090  
religiongradstudies@temple.edu  
215-204-7973

**Submission Address for Application Materials:**
http://cla.temple.edu/interfolio/religion-ma

**Submission Address for Official Electronic Transcripts:**
relgrad@temple.edu

**Submission Address for Official Paper Transcripts:**
Jemina Quarles, Graduate Coordinator  
Temple University Dept. of Religion  
1114 W. Polett Walk, 614 Anderson Hall (022-28)  
Philadelphia, PA 19122-6090

**Department Contacts:**

**Admissions:**
Jemina Quarles  
jemili@temple.edu  
215-204-3663

**Graduate Chairperson:**
Douglas Duckworth  
duckworth@temple.edu  
215-204-3663

**Chairperson:**
Terry Rey  
trey@temple.edu  
215-204-8755

**Religion, Ph.D.**

**About the Program**
The Temple University Department of Religion began shortly after the Supreme Court declared that the study of religion (not to be confused with its practice) in state-supported public education was commended. Temple's department broke from the "seminary model" of traditional fields, such as church history and theology, and instead committed to the multi-traditional and multi-disciplinary study of global religious traditions. This gives our program an outstanding breadth and cross-cultural diversity. We have a long history of attracting students from all over the world, and our graduates now work in universities not just in North America, but also in places such as Germany, Japan, Korea, and Malaysia.

**Time Limit for Degree Completion:** 7 years

**Campus Location:** Main, Center City

**Full-Time/Part-Time Status:** Most graduate courses are offered during the day at the Main Campus, with an increasing number of courses offered at TUCC in the evening. The degree program can be completed on a full- or part-time basis.

**Interdisciplinary Study:** Students are given a broad, interdisciplinary introduction to Religion in the first unit of study and take courses in other departments and institutions in the second unit of study.

**Affiliation(s):** Graduate student exchange agreements exist with the University of Pennsylvania's Department of Religious Studies, the Reconstructionist Rabbinical College, the Eastern Baptist Theological Seminary, and the Lutheran Theological Seminary in Philadelphia. In addition, a coordinated M.A./Ph.D. program in Islamic-Christian Relations is conducted with Hartford Theological Seminary and a Graduate Certificate in Women's Studies is offered in cooperation with Temple's Women's Studies Program.

**Areas of Specialization:** The Department of Religion offers graduate programs leading to the M.A. and Ph.D. degrees. Students are introduced to the major methods of study in Religion, with stress on the critical analysis of religions by the methods of the humanities and the social sciences, including textual and historical analysis, philosophical and hermeneutical studies, and social and cultural analysis. The program
thus ensures that a well-rounded course of study is achieved. The two basic concentrations are:

1. Global Religious Traditions, with emphasis in Asian Philosophy/Religious Thought, Biblical Studies, and Islam; and
2. Religion and Society.

Job Prospects: The kind of education we offer has enabled our graduates to find jobs in a very competitive job market. For example, some of our graduates in the area of Bible study were hired explicitly because they had received some instruction in Islam and could serve as a resource about that tradition. Breadth and diversity constitute one of the strengths of our program, and we continue to offer coursework in global religious traditions and the roles of religions in society and culture so as to maintain this strength. Graduates of our doctoral program are employed in colleges and universities in North America, Europe, Africa, and Asia. The most common positions are as faculty in religion studies, although some are administrators in educational governmental administrations and academic administrations.

Non-Matriculated Student Policy: Persons not enrolled in a degree program may register for courses as non-matriculated students. Transcripts of undergraduate work should indicate some background in Religion Studies and a GPA sufficient to maintain graduate work, normally 3.5 or above. Non-matriculated students may register for courses after an interview with the Director of Graduate Religion Studies, at which time they should present academic transcripts. Credit earned toward a subsequent degree program at Temple University is limited to 9 credits.

Financing Opportunities: Teaching Assistants teach sections independently in the Department of Religion.

Admission Requirements and Deadlines

Application Deadline:

Fall: January 15

Applications are evaluated together after the deadline.

APPLY ONLINE to this graduate program to begin the application process and receive your TUid number.

Next, visit http://cla.temple.edu/interfolio/religion-phd to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

• Scores for the GRE and TOEFL, if applicable, must be reported directly by ETS to institution code 2906.
• Official electronic transcripts must be sent to relgrad@temple.edu or the originals mailed to:

  Jemina Quarles, Graduate Coordinator
  Temple University College of Liberal Arts
  Dept. of Religion
  1114 W. Polett Walk, 614 Anderson Hall (022-28)
  Philadelphia, PA 19122-6090

Letters of Reference:

Number Required: 3

From Whom: Recommendations should be obtained from former faculty who know the applicant best.

Coursework Required for Admission Consideration: It is suggested that applicants have taken at least 18 credits of Religion coursework.

Master's Degree in Discipline/Related Discipline: A master's degree is not required.

Bachelor's Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Statement of Goals: In 2 to 3 pages, address your background that prepares you for graduate studies in Religion, including your previous successes in academic study and research in the field; your area of interest within the field of Religion and how that interest coincides with offerings in Temple's Department of Religion; and your teaching and research goals and how you foresee study at Temple furthering those goals.

Standardized Test Scores:
GRE: Required. Scores of 160 (new test) or 600 (old test) on the verbal section and 144 (new test) or 500 (old test) on the quantitative section are preferred.

TOEFL: 100 iBT or 600 PBT minimum

Resume: Current resume required.

Writing Sample: The writing sample should demonstrate your ability to research and write a scholarly paper. The paper should be no more than 10 pages in length and fully referenced according to a professional, scholarly style manual. It should be in the field of Religious Studies or a closely related area.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Master's: 30
Number of Credits Required Beyond the Baccalaureate: 60

Required Courses:

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
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<tr>
<td></td>
<td>Foundation Courses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Basic Thought, Practices, and History of Three Particular Religious Traditions</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Introductory Methodology</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Advanced Seminars and/or Independent Study</td>
<td>33</td>
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<tr>
<td></td>
<td>Courses Taken Outside the Department</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Dissertation Research</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Total Credit Hours</td>
<td>60</td>
</tr>
</tbody>
</table>

The Ph.D. program is divided into three sequential units of study:

1. Unit I encompasses the first 24 credits of courses, including all the required foundation courses, and satisfaction of a first foreign language requirement. These courses are intended to provide a firm and broad academic base across the field of Religious Studies. The foundation courses must include 12 credits of courses in the basic thought, practices, and history of three particular religious traditions
and 3 credits in an introductory methodology course. The remaining 9 credits consist of advanced or specialized courses chosen by the student for the benefit of her/his program after consultation with the advisor.

2. Unit II includes the remaining courses and second language competency to complete the required specialization in preparation for the preliminary examinations and the dissertation proposal. These include 24 credits of further advanced or specialized courses and 6 credits taken outside of the department for a total of 30 credits.

3. Unit III entails the writing and defense of the dissertation. The student registers for 6 credits of dissertation research, usually one credit per term.

Language Examination: Competence in all languages necessary to perform graduate-level scholarly research in the student's area of concentration must be demonstrated. Reading knowledge of a minimum of two foreign languages is required.

Culminating Events:

Preliminary Examination:
The purpose of the preliminary examination is to demonstrate critical and interpretive knowledge in specialized areas of Religion. Students are examined in all areas of scholarship and research necessary for their area of study. They must have demonstrated reading knowledge of at least a second foreign language, the first having been examined in Unit I. They prepare a dissertation proposal and an outline of their areas of examinations. The preliminary examination is taken at the end of Unit II.

Members of the student's dissertation committee individually write examination questions. Sometimes faculty are included as "examiners" who will not serve on the Dissertation Committee. Students arrange with their Dissertation Committee when the exams are to be taken. Normally exams are done within the Department of Religion, using a computer under supervised conditions. All examiners and members of the Dissertation Committee must agree that the student has demonstrated competence in the relevant areas of study, and that the student is capable of completing the dissertation proposed.

The written exams serve as the basis for the oral preliminary examination. All faculty for whom exams were written participate in the oral preliminary exam.

Dissertation Proposal:
The proposal demonstrates the student's knowledge of the current research in her/his particular problem of interest. Students should show methodological awareness and state the uniqueness of the proposed research with regard to the ongoing body of scholarly literature.

Dissertation:
The dissertation is to demonstrate original and significant contributions to the study of Religion. It should make use of primary texts and demonstrate reading knowledge of appropriate original languages.

The Dissertation Examining Committee evaluates the student's dissertation and oral defense. This committee is comprised of the Doctoral Advisory Committee and at least one additional Graduate Faculty member from outside the Department of Religion. The Outside Examiner should be identified no later than the beginning of the term in which the student will defend the dissertation. The Dissertation Examining Committee evaluates the student's written thesis in making an original scholarly contribution to the field and her/his ability to defend and discuss orally the contents of the thesis.

If a student needs to change a member of a Committee, the new member must be approved by the Department's Graduate Studies Committee and registered with the Graduate Secretary and the Graduate School.

Students who are preparing to defend their dissertation should confirm a time and date with their Dissertation Examining Committee and register with the Graduate Secretary at least 30 days before the defense is to occur. The Graduate Secretary arranges the time, date, and room, and forwards to the student the appropriate forms. After the Graduate Secretary has arranged the time, date, and room for the defense, the student must send to the Graduate School a completed "Announcement of Dissertation Defense" form, found in TPortal under the Tools tab within "University Forms," at least 10 days before the defense. The department posts flyers announcing the defense.

Contacts
Program Web Address:
http://www.cla.temple.edu/religion/graduate

Department Information:
Dept. of Religion
614 Anderson Hall
1114 W. Polett Walk
Philadelphia, PA 19122-6090
relgrad@temple.edu
215-204-7973

Submission Address for Application Materials:
http://cla.temple.edu/interfolio/religion-phd

Submission Address for Official Electronic Transcripts:
relgrad@temple.edu

Submission Address for Official Paper Transcripts:
Jemina Quarles, Graduate Coordinator
Temple University Dept. of Religion
1114 W. Polett Walk, 614 Anderson Hall (022-28)
Philadelphia, PA 19122-6090

Department Contacts:
Admissions:
Jemina Quarles
jem@temple.edu
215-204-3663

Graduate Chairperson:
Douglas Duckworth
duckworth@temple.edu
215-204-3663

Chairperson:
Terry Rey
trey@temple.edu
215-204-8755
Sociology, M.A.

COLLEGE OF LIBERAL ARTS (https://liberalarts.temple.edu)

About the Program

The graduate program in Sociology is devoted to the training of research scholars and educators in the discipline. Students have a variety of career goals, ranging from academic research and teaching to research and administration in private or public agencies. The master's program provides advanced training in sociological theory, statistics, and research methods. The program's main areas of graduate teaching and research are Gender and Sexuality, Immigration and Globalization, Medical Sociology, Race and Ethnicity, and Urban Sociology.

Time Limit for Degree Completion: 3 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: The program encourages students to participate in seminars in other social sciences, including Anthropology, Criminal Justice, Geography and Urban Studies, History, Political Science, Psychology, Urban Education, and Women's Studies.

Affiliation(s): The program is affiliated with the American Sociological Association (ASA).

Areas of Specialization: The main areas of graduate teaching and research are:

- Gender and Sexuality
- Immigration and Globalization
- Medical Sociology
- Race and Ethnicity
- Urban Sociology

Job Prospects: Graduates of the M.A. program are typically employed as applied researchers and administrators in private and public agencies.

Non-Matriculated Student Policy: Students with a bachelor's degree may take graduate courses in Sociology without enrolling in a Temple University graduate program. A limit of 9 credits of graduate coursework taken prior to admission will be accepted toward a Sociology degree. Non-matriculated students should consult with the Graduate Chair before selecting their coursework if they plan to apply for the degree program.

Financing Opportunities: The Sociology Department does not offer funding opportunities for students enrolled in the M.A. program.

Application and upload scanned copies of all supporting documents to your account, with these exceptions:

- Scores for the GRE and TOEFL, if applicable, must be reported directly by ETS to institution code 2906.
- Official electronic transcripts must be sent to socadmis@temple.edu or the originals mailed to:
  Pamela Smallwood, Graduate Coordinator
  Temple University College of Liberal Arts
  Dept. of Sociology
  1115 W. Polett Walk, 710 Gladfelter Hall (025-23)
  Philadelphia, PA 19122-6089

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members familiar with academic competence, wherever possible.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree is required.

Statement of Goals: Approximately 500 to 1,000 words include your interest in Temple's program; your research goals; your future career goals; and your academic and research achievements.

Standardized Test Scores:

GRE: Required

TOEFL: 100 iBT or 600 PBT minimum

Writing Sample: The writing sample should demonstrate your ability to conduct research and write a scholarly paper. The paper may be on any topic, and no more than 25 pages in length. It must be fully referenced according to a professional and scholarly style.

Resume: Current personal resume or curriculum vitae required.

Transfer Credit: Graduate coursework in Sociology may be transferred from outside the university, provided that the credits were obtained no more than five years prior to the student's matriculation at Temple and the grades are "B" or better. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 31

Required Courses:

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<tr>
<th>Code</th>
<th>Title</th>
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<tr>
<td>SOC 8111</td>
<td>Classical Social Theory</td>
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</tr>
<tr>
<td>or SOC 9111</td>
<td>Contemporary Sociological Theory</td>
<td>3</td>
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Methods of Inquiry Courses

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>SOC 8011</td>
<td>Logic of Inquiry</td>
<td>3</td>
</tr>
<tr>
<td>SOC 8211</td>
<td>Inferential and Multivariate Statistics</td>
<td>4</td>
</tr>
<tr>
<td>SOC 8221</td>
<td>Qualitative Methods</td>
<td>3</td>
</tr>
<tr>
<td>SOC 9211</td>
<td>Graduate Data Analysis</td>
<td>3</td>
</tr>
<tr>
<td>SOC 9241</td>
<td>Qualitative Data Analysis</td>
<td>3</td>
</tr>
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</table>

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1

Applications are evaluated as they are received throughout the year.

APPLY ONLINE to this graduate program to begin the application process and receive your TUid number.

Next, visit http://cla.temple.edu/interfolio/sociology-ma to create or log in to your Interfolio account. Complete the supplemental program
Electives  

<table>
<thead>
<tr>
<th>Electives</th>
<th>12</th>
</tr>
</thead>
</table>

Of the four elective courses, two must relate to the preliminary examination. Other electives may include:

- An Independent Study course (SOC 9382): With the consent of the Graduate Chair and the instructor, students may take one Independent Study course, which is an intensive program of study within a specific area of Sociology. Students who wish to take an Independent Study course must submit to the Graduate Chair at the beginning of the term a "Department Independent Study Request" form describing the readings and/or research they propose to undertake. The form must be signed by both the participating faculty member and the Graduate Chair. A final statement on the work completed must be filed with the Graduate Chair at the end of the term. A letter grade is given for this course.
- Outside courses: With the approval of the Graduate Chair, students may take one course outside the Sociology Department.

**Culminating Events:** This program has no culminating events beyond successful completion of coursework. The master’s degree in Sociology is awarded to any candidate who earns a cumulative grade point average of 3.0 or better in the master’s degree curriculum. Apply for graduation in Self Service Banner by accessing TUportal ([https://tuportal5.temple.edu](https://tuportal5.temple.edu)). Note the deadline for submitting the graduation application on the Graduate School's calendar, found at [http://bulletin.temple.edu/graduate/academic-calendar/](http://bulletin.temple.edu/graduate/academic-calendar/).

**Contacts**

**Program Web Address:**

http://www.cla.temple.edu/sociology/graduate/

**Department Information:**

Dept. of Sociology  
710 Gladfelter Hall  
1115 W. Polett Walk  
Philadelphia, PA 19122-6089  
socadmis@temple.edu  
215-204-7750

**Submission Address for Application Materials:**

http://cla.temple.edu/interfolio/sociology-ma

**Submission Address for Official Electronic Transcripts:**

socadmis@temple.edu

**Submission Address for Official Paper Transcripts:**

Pamela Smallwood, Graduate Coordinator  
Temple University Dept. of Sociology  
1115 W. Polett Walk, 710 Gladfelter Hall (025-23)  
Philadelphia, PA 19122-6089

**Department Contacts:**

**Admissions:**  
Pamela Smallwood  
poppy@temple.edu  
215-204-7750

**Graduate Chairperson:**

Dustin Kidd, Ph.D.  
dkidd@temple.edu

**Chairperson:**

Kimberly Goyette, Ph.D.  
kgoyette@temple.edu  
215-204-0134

**Sociology, Ph.D.**

**COLLEGE OF LIBERAL ARTS ([https://liberalarts.temple.edu](https://liberalarts.temple.edu))**

**About the Program**

The graduate program in Sociology is devoted to the training of research scholars and educators in the discipline. Students have a variety of career goals, ranging from academic research and teaching to research and administration in private or public agencies. The doctoral program provides advanced training in sociological theory, statistics, and research methods. The program's main areas of graduate teaching and research are Gender and Sexuality, Immigration and Globalization, Medical Sociology, Race and Ethnicity, and Urban Sociology.

**Time Limit for Degree Completion:** 7 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** Full-time study is preferred, but part-time enrollment can be considered on a case-by-case basis.

**Interdisciplinary Study:** The program encourages students to participate in seminars in other social sciences, including Anthropology, Criminal Justice, Geography and Urban Studies, History, Political Science, Psychology, Urban Education, and Women’s Studies.

**Affiliation(s):** The program is affiliated with the American Sociological Association (ASA).

**Areas of Specialization:** The main areas of graduate teaching and research are:

- Gender and Sexuality
- Immigration and Globalization
- Medical Sociology
- Race and Ethnicity
- Urban Sociology

**Job Prospects:** Graduates of the Ph.D. program are typically employed as either teaching-research scholars in an academic setting or as applied researchers and administrators in private and public agencies.

**Non-Matriculated Student Policy:** Students with a bachelor’s degree may take graduate courses in Sociology without enrolling in a Temple University graduate program. A limit of 9 credits of graduate coursework taken prior to admission will be accepted toward a Sociology degree. Non-matriculated students should consult with the Graduate Chair before selecting their coursework if they plan to apply for the degree program.

**Financing Opportunities:** The Sociology Department and Temple University support full-time students during the academic year through Teaching Assistantships, part-time teaching, and University and Future Faculty Fellowships. Initial funding is contingent on the recommendation...
Admission Requirements and Deadlines

Application Deadline:

Fall: December 15

Applications are evaluated together after the deadline has passed.

APPLY ONLINE to this graduate program to begin the application process and receive your TUid number.

Next, visit http://cla.temple.edu/interfolio/sociology-phd to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

- Scores for the GRE and TOEFL, if applicable, must be reported directly by ETS to institution code 2906.
- Official electronic transcripts must be sent to socadmis@temple.edu or the originals mailed to:
  
Pamela Smallwood, Graduate Coordinator
  Temple University College of Liberal Arts
  Dept. of Sociology
  1115 W. Polett Walk, 710 Gladfelter Hall (025-23)
  Philadelphia, PA 19122-6089

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members familiar with academic competence, wherever possible.

Master's Degree in Discipline/Related Discipline: A master's degree is not required.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree in Sociology, Criminal Justice, Economics, History, Political Science, Psychology, or Urban Studies is required, although a degree in other disciplines can be considered.

Statement of Goals: Approximately 500 to 1,000 words include your interest in Temple's program; your research goals; your future career goals; and your academic and research achievements.

Standardized Test Scores:

GRE: Required

TOEFL: 100 iBT or 600 PBT minimum

Writing Sample: The writing sample should demonstrate your ability to conduct research and write a scholarly paper. The paper should be on a sociological topic, and no more than 25 pages in length. It must be fully referenced according to a professional and scholarly style.

Resume: Current personal resume or curriculum vitae required.

Transfer Credit: Graduate coursework in Sociology may be transferred from outside the university, provided that the credits were obtained no more than five years prior to the student's matriculation at Temple and the grades are "B" or better. The maximum number of credits a student may transfer is 12, if the credits earned did not result in the completion of an M.A. degree.

Advanced Standing: For students entering the Ph.D. program who have received an M.A. degree elsewhere, up to 19 credits may be applied to the doctoral program, provided the courses are relevant to the department's required courses. These credits must have been obtained no more than five years prior to the student's matriculation at Temple and the grades must be "B" or better. The Graduate Chair decides which courses students may transfer. As a general rule, students with transferred credits should expect that they will have to complete much of the required coursework in residence and are, further, expected to take two courses from Temple faculty in their area of focus before taking the Ph.D. Preliminary Exam in their field.

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 52

Required Courses:

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<tr>
<th>Code</th>
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<th>Credit Hours</th>
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</thead>
<tbody>
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<td>SOC 8111</td>
<td>Classical Social Theory</td>
<td>3</td>
</tr>
<tr>
<td>SOC 9111</td>
<td>Contemporary Sociological Theory</td>
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Methods of Inquiry Courses

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<tr>
<td>SOC 8211</td>
<td>Inferential and Multivariate Statistics</td>
<td>4</td>
</tr>
<tr>
<td>SOC 8221</td>
<td>Qualitative Methods</td>
<td>3</td>
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<tr>
<td>SOC 9211</td>
<td>Graduate Data Analysis</td>
<td>3</td>
</tr>
<tr>
<td>SOC 9241</td>
<td>Qualitative Data Analysis</td>
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Electives ¹

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<td>SOC 9994</td>
<td>Preliminary Examination Preparation</td>
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<tr>
<td>SOC 9998</td>
<td>Pre-Dissertation Research ²</td>
<td>1</td>
</tr>
<tr>
<td>SOC 9999</td>
<td>Dissertation Research</td>
<td>2</td>
</tr>
</tbody>
</table>

Total Credit Hours 52

¹ Of the eight elective courses, two must relate to the preliminary examination. Other electives may include:
- Independent Study courses (SOC 9392): With the consent of the Graduate Chair and the instructor, students may take two Independent Study courses, which are intensive programs of study within a specific area of Sociology. Students who wish to take these courses must submit to the Graduate Chair at the beginning of the term a "Department Independent Study Request" form describing the readings and/or research they propose to undertake. The form must be signed by both the participating faculty member and the Graduate Chair. A final statement on the work completed must be filed with the Graduate Chair at the end of the term. Letter grades are given for these courses.
- Outside courses: With the approval of the Graduate Chair, students may take two courses outside the Sociology Department.

² In lieu of SOC 9998, an additional credit may be taken in either SOC 9994 or SOC 9999.

Culminating Events:

Pre-Candidacy Evaluation:
The Sociology Department evaluates doctoral students at the end of their second year using the grade point average (GPA) as a main criterion for advancement to doctoral-level coursework. A student with a GPA below 3.4 is ordinarily not allowed to continue in the doctoral program. However, the student can petition the Graduate Committee for re-consideration. After a petition is submitted, the Graduate Chair requires a written evaluation from each faculty member in the department with whom the student has taken a course. The student is permitted to continue in the Ph.D. program if at least five faculty members write in support of the petition. Those not allowed to continue can graduate with an M.A. upon completion of the requirements.

Preliminary Examination:
After completing the required coursework, doctoral students are expected to take a preliminary examination in the Spring term of their third year. The preliminary examination consists of two parts: the written area examination, and the proposal paper. Based on the written area exam grade and the evaluation of the proposal paper, the Graduate Chair assigns an overall “pass” or “fail” to each student for the preliminary examination. Students are notified of the results at the end of the term. Students need a “pass” on the written exam and an “acceptable” evaluation on the proposal paper to successfully complete the preliminary examination. Those who do well on one part but fail the other may retake the part they failed. Those who fail both the area exam and the proposal paper are allowed to retake both parts. Students who fail on their second attempt at either the written area exam or the proposal paper are not allowed to continue in the Ph.D. program but are eligible to receive a master’s degree.

Written Area Exam: Prior to taking the preliminary examination, students must complete two or more graduate-level courses related to that examination area offered by the faculty within the department. When doctoral students complete the required coursework, they must then take the preliminary examination in one of the broad examination areas identified by the Sociology Department as consistent with its mission and self-defined areas of strength: Gender and Sexuality, Immigration and Globalization, Medical Sociology, Race and Ethnicity, and Urban Sociology. However, students may request to take the exam in another area under the following conditions:

1. the student has taken at least two graduate-level courses in the Sociology Department in the requested area, one of which may be an independent study course;
2. two faculty members are willing to sponsor the exam; and
3. the Graduate Chair approves.

No later than the second Monday in September prior to the Spring term when the preliminary examination will be taken, students must fill out the “Department Preliminary Examination Application” form and indicate the selected area for the exam. At the beginning of the Fall term, two faculty members from the prelim area are appointed by the Department Chair to form a Prelim Committee, which consists of a chair and one regular member. The committee members are charged with:

1. updating the integrated prelim reading list for the area;
2. writing and submitting four prelim questions to the Graduate Chair by March 15; and
3. grading the exams.

The Department Chair also appoints a tiebreaker to read the exam if the committee does not agree on the evaluation.

The written area examination consists of four questions, and students must select and answer two of those questions. Students are given one week to complete the preliminary exam. Students receive the questions the second Monday in April, and the answers are due the third Monday in April. The Prelim Committee members have two weeks to evaluate the exam, assigning a grade of “Pass” or “Fail” to each question along with their comments. A total of at least three “Pass” grades from the two graders is needed for a student to pass the exam. When the graders both agree to fail a question (even if they pass the other question), the student has failed the preliminary exam. The tiebreaker should be used either when:

1. one grader passes both answers and the other grader fails both answers; or
2. when one grader passes the first answer and fails the second, while the other grader fails the first answer and passes the second.

If the tiebreaker fails to break the tie (i.e., three fails and three passes), the student fails the exam. Grades with comments are submitted to the Graduate Chair.

If the student fails the written area exam, s/he may retake the exam. At the beginning of the following Fall term, three faculty members (including a tiebreaker) in the prelim area are appointed by the Department Chair to form a Prelim Committee. The committee submits four questions to the Graduate Chair by October 15. The student receives the questions the Monday of the week before Thanksgiving week and the exam is due on the Monday of Thanksgiving week. The committee has two weeks to grade the exam.

Proposal Paper: In the Spring term of the preliminary examination, students are also required to take a three-credit proposal seminar course (SOC 9994 Preliminary Examination Preparation). They must receive a passing grade on the written paper for the course in order to pass the preliminary examination.

The proposal paper is the main assignment of the proposal seminar. Every student selects a faculty member with expertise in her/his research area to serve as a proposal reader. The proposal reader meets with the student at least twice during the term to discuss the paper: once before Spring break, and once after Spring break. At the end of each meeting, the reader provides the student and the instructor of the proposal seminar course with a brief narrative of the strengths and weaknesses of the paper. The instructor may meet with the reader to discuss the student’s progress in the writing of the proposal paper. The week after Spring break, the instructor submits a report to the Graduate Chair with a brief description of the performance of each student. Any student who is underperforming is called to a meeting with the Graduate Chair in the presence of the instructor and the proposal reader to take corrective measures.

On the official last day of classes, students submit their proposal paper to the instructor and the reader. The paper should demonstrate mastery of the existing body of literature on the proposed topic and the ability to formulate important scholarly research problems, as well as the appropriate methods to investigate them. It should not exceed 20 pages and should have no fewer than 12 pages. The evaluation of the proposal paper focuses on the student’s potential for writing a passable dissertation. Evidence of such potential includes the ability to synthesize the relevant literature; conceptualize a researchable problem; and propose a feasible research design. The instructor and the reader have a week to grade the papers. Each must submit a detailed, descriptive evaluation of the paper to the Graduate Chair, indicating whether it is
“acceptable” or “unacceptable.” If the instructor and the reader disagree on the evaluation of the paper, a third department member with expertise in the area is appointed by the Graduate Chair to provide a determining evaluation. The main goal of the paper evaluation is to assess the student’s ability to write a dissertation.

If the student fails the proposal paper, s/he may rewrite the paper. The Graduate Chair appoints a faculty mentor with expertise in the research topic to work with the student on the rewriting of the paper; the mentor also serves as a grader. The Graduate Chair appoints another faculty member to serve as a second grader. If a tie occurs between the two graders, the Graduate Chair finds a third grader to break the tie.

The rewritten paper is due the first Monday in December. The appointed faculty members evaluate the paper and report to the Graduate Chair in two weeks whether the paper is “acceptable” or “unacceptable.” Students are notified of the results by December 15.

Doctoral Advisory Committee:
Following the preliminary examination, the student selects the Chair of her/his Doctoral Advisory Committee. The remaining two or more members of the committee are selected by the student in consultation with the Chair. The majority of the committee members must be from the Sociology Department. Other members may include faculty from other departments within Temple University or from other universities; doctoral-level expert advisors from outside university settings may also be considered as members.

To establish the Doctoral Advisory Committee, the student must submit a “Sociology Department Doctoral Advisory Committee” form to the department’s Graduate Coordinator. To include committee members who are not members of the Temple Graduate Faculty on a Doctoral Advisory Committee, the Chair must request approval by submitting the “Nomination for Service on Doctoral Committee” form, found in TUportal under the Tools tab within “University Forms,” and the proposed committee member’s current curriculum vitae to the Graduate School. If a change is made in the composition of the Doctoral Advisory Committee, the change must be approved by the Chair of the committee and the Dean of the College.

If a change is made in the composition of the Doctoral Advisory Committee after the approval of the proposal, the change must be approved by the Chair of the committee and the Dean of the College. The change must be noted on the “Request for Change in Dissertation Committee” form, found in TUportal under the Tools tab within “University Forms,” and filed with the Graduate School prior to posting the final dissertation defense.

Dissertation Defense/Ph.D. Final Examination:
The dissertation is defended orally. Any discrepancy between the final version of the dissertation and the dissertation proposal should be explained and defended. One copy of the final dissertation should be made available in the office of the Sociology Department at least two weeks before the dissertation defense. An abstract of the dissertation, not exceeding ten pages, must be given to all faculty members ten days before the defense.

The Dissertation Examining Committee is formed to evaluate the quality of the dissertation and conduct the oral defense. The committee includes the Doctoral Advisory Committee and at least one outside examiner. If the outside examiner is not a member of the Temple Graduate Faculty, the Chair of the Doctoral Advisory Committee must request approval by submitting the "Nomination for Service on Doctoral Committee" form, found in TUportal under the Tools tab within “University Forms,” and the outside examiner’s current curriculum vitae to the Graduate School at least four weeks in advance of the scheduled defense. Approval must be received prior to posting the oral defense. The Chair of the Dissertation Examining Committee must be a member of the Graduate Faculty, but may not be the Chair of the candidate’s Doctoral Advisory Committee. This person, responsible for coordinating and conducting the defense, must be identified when the defense is posted with the Graduate School on the “Announcement of Dissertation Defense” form, found in TUportal under the Tools tab within “University Forms.”

All dissertation oral defense examinations are publicly announced by the Sociology Department in writing at least ten days in advance of the examination. The written announcement must be sent to all members of the Dissertation Examining Committee, all graduate faculty in the candidate’s department, and the Graduate School. It must also be posted in the College. All dissertation examinations are open to the entire academic community.

Normally, the dissertation defense is held during the regular academic year. A dissertation defense passed after the Graduate School deadline in the Spring does not qualify the student for a May degree. A summer defense may be scheduled only if all members of the committee agree. The entire dissertation committee must attend the defense. If one or more committee members fail to attend the defense, the Departmental Chair cannot sign the form certifying the defense. All faculty members and students are invited to participate in the dissertation defense.

The dissertation committee must vote unanimously that the student has passed the Ph.D. Final Examination. Each member of the dissertation committee indicates her/his assessment of the examination and signs her/his name to the “Final Examination Report for Doctoral Candidates” form.
form, found in TUportal under the Tools tab within "University Forms." If the Chair of the Sociology Department agrees that the dissertation meets departmental standards, s/he signifies her/his approval by signing for the department as well on the "Final Examination Report for Doctoral Candidates" form. The completed form is submitted to the Dean's Office of the College of Liberal Arts.

Information regarding the required format of the dissertation is available in the Graduate School's Dissertation and Thesis Handbook, found at www.temple.edu/grad/documents/Dissertation-and-Thesis-Handbook.pdf. A processing fee must be paid to the Temple University Bursar as shown on the "Dissertation/Thesis Processing Fee" form, found in TUportal under the Tools tab within "University Forms." Fees may also be required when filing the dissertation electronically, within 30 days of the dissertation defense, at http://www.etdadmin.com/cgi-bin/school?siteld=171. The student should heed the instructions found on the "Final Checklist of Dissertation Materials," identified as Appendix M1 in the Graduate School's Dissertation and Thesis Handbook. Note that the signature page bearing original ink signatures constitutes the only item required to be submitted in hard copy to the Graduate School.

Students must apply to graduate, through the Sociology Department, by the deadline date announced in the graduate catalog each year. The deadline is usually three or four months before graduation. Applications may be obtained from the department's Graduate Coordinator or online. Upon completion of the doctoral program, the student is required to submit a bound copy of her/his dissertation to the Sociology Department, as well as a regular hard copy to the Chair of the Dissertation Examining Committee.

Contacts

Program Web Address:
http://www.cla.temple.edu/sociology/graduate/

Department Information:
Dept. of Sociology
710 Gladfelter Hall
1115 W. Polett Walk
Philadelphia, PA 19122-6089
socadmis@temple.edu
215-204-7750

Submission Address for Application Materials:
http://cla.temple.edu/interfolio/sociology-phd

Submission Address for Official Electronic Transcripts:
socadmis@temple.edu

Submission Address for Official Paper Transcripts:
Pamela Smallwood, Graduate Coordinator
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Graduate Chairperson:
Dustin Kidd, Ph.D.
dkidd@temple.edu

Chairperson:
Kimberly Goyette, Ph.D.
kgoyette@temple.edu
215-204-0134

Spanish, M.A.

COLLEGE OF LIBERAL ARTS (https://liberalarts.temple.edu)

About the Program

The graduate program in Spanish integrates the established fields of Literature and Linguistics. At the M.A. level, the program develops advanced Spanish-language skills for diverse careers and trains students in the exercise of research and pedagogical skills necessary for the pursuit of the Ph.D.

Time Limit for Degree Completion: 3 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Study Abroad: Students may apply one approved non-Temple graduate course done in a Spanish-speaking country toward fulfillment of the M.A. requirements in Spanish. Opportunities for graduate study abroad through Temple programs are available occasionally.

Areas of Specialization: Areas of specialization include:

• Spanish Peninsular Literature
• Spanish American Literature
• Hispanic Linguistics

Job Prospects: Graduates of the M.A. program in Spanish typically find employment in secondary education, in business and government, and in social and medical services.

Non-Matriculated Student Policy: Non-matriculated students may take up to three courses with approval of the department or Graduate Chair.

Financing Opportunities: Teaching Assistants typically teach basic and intermediate Spanish or specialized language-skills courses. Assistantships carry a stipend and tuition remission. Candidates for Teaching Assistantships should express their interest and special needs in an addendum to the personal statement of the application to the graduate program.

Admission Requirements and Deadlines

Application Deadline:
Fall: January 15
Applications are evaluated as they arrive, with attention paid to deadlines. APPLY ONLINE to this graduate program to begin the application process and receive your TUid number.

Next, visit http://cla.temple.edu/interfolio/spanish-ma to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

- Scores for the GRE and TOEFL, if applicable, must be reported directly by ETS to institution code 2906.
- Official electronic transcripts must be sent to spangrad@temple.edu or the originals mailed to:
  Annette Vega, Graduate Coordinator
  Temple University College of Liberal Arts
  Spanish Graduate Program
  1114 W. Polett Walk, 428 Anderson Hall (022-34)
  Philadelphia, PA 19122-6090

Letters of Reference:
Number Required: 3
From Whom: Letters of recommendation should be obtained from college/university faculty members with personal knowledge of the applicant's academic achievements.

Coursework Required for Admission Consideration: An undergraduate major in Spanish or its coursework equivalent is required for entrance into the M.A. program.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree, preferably in Spanish, is required for admission.

Statement of Goals: Approximately 2 to 3 pages include your interest in Temple's Spanish program, future career goals, research goals, academic achievements, and any related experience. Applicants interested in Teaching Assistantships, Fellowships, or other financial support may describe special needs in an addendum to their personal statement.

Standardized Test Scores:
GRE: Typical scores range from 153 to 166 in verbal reasoning and 144 to 155 in quantitative reasoning or 500 to 700 on the old version of the GRE. Applicants from Spanish-speaking countries may present EXADEP scores instead.

International applicants are required to provide scores from one of the following tests: Test of English as a Foreign Language (TOEFL®), the International English Language Testing System (IELTS™), or the Pearson Test of English Academic (PTE Academic™).

Resume: Current resume required.
Writing Sample: A paper or journal article written in Spanish is required.
Transfer Credit: One course (3 credits) undertaken while the student is enrolled in Temple's Spanish M.A. program may be transferred from a program in a Spanish-speaking country. The course must be a graduate course, and it must be approved by the Graduate Advisor. The maximum number of credits a student may transfer is 3.

Spring: September 30

Applications are evaluated as they arrive, with attention paid to deadlines. APPLY ONLINE to this graduate program to begin the application process and receive your TUid number.

Next, visit http://cla.temple.edu/interfolio/spanish-ma to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

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Resume: Current resume required.
Writing Sample: A paper or journal article written in Spanish is required.
Transfer Credit: One course (3 credits) undertaken while the student is enrolled in Temple's Spanish M.A. program may be transferred from a program in a Spanish-speaking country. The course must be a graduate course, and it must be approved by the Graduate Advisor. The maximum number of credits a student may transfer is 3.

Program Requirements

General Program Requirements:
Number of Didactic Credits Required Beyond the Baccalaureate: 30

Required Courses:

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<td><strong>Core Course</strong></td>
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<td>SPAN 8001</td>
<td>Hispanic Bibliography and Research</td>
<td>3</td>
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<table>
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<tr>
<th>Other Courses</th>
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</thead>
<tbody>
<tr>
<td>Non-advanced (5000-level) courses 1</td>
<td></td>
</tr>
<tr>
<td>Advanced (6000-level and higher) courses 2</td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours: 30

1 Student may take a maximum of 12 credits.
2 Student must take a minimum of 18 credits.

Language Examination: Students must pass a written reading-comprehension examination in a foreign language other than Spanish. Examinations are usually taken in the Romance languages or German. Other languages may be accepted with approval.

Culminating Events:
Comprehensive Examination: The purpose of the comprehensive examination is to evaluate the breadth and depth of students' knowledge of the discipline. Students must write a four-hour written comprehensive examination based on a reading list from three course fields within the department: Spanish Peninsular Literature, Spanish American Literature, and Hispanic Linguistics. The examination is taken after the student fulfills the 30-credit course requirement and passes the reading-comprehension exam in a language other than Spanish or English.

All examinations must include representation from each of three course fields: Spanish Peninsular Literature, Spanish American Literature, and Hispanic Linguistics. Graduate Faculty from each of the three fields write the questions and evaluate responses on a scale of "A" to "F." Each answer is then evaluated by a second reader. To be evaluated as passing, a grade of "B-" or higher must be achieved in response to each examination question. Evaluators look for an understanding of core concepts; the application of principles of critical analysis to texts from the reading list for the M.A. examination; and the ability to write expository prose.

Comprehensive examinations are administered once a term. They are scheduled by the Graduate Chair, with whom students must register. The M.A. examination is given over a period of one week and is proctored by the Graduate Chair or an Administrative Assistant.

Contacts

Program Web Address:
http://www.cla.temple.edu/spanish/graduate/

Department Information:
Dept. of Spanish and Portuguese
428 Anderson Hall
1114 W. Polett Walk
Philadelphia, PA 19122-6090
Spanish, Ph.D.

COLLEGE OF LIBERAL ARTS (https://liberalarts.temple.edu)

About the Program

The graduate program in Spanish integrates the established fields of Literature and Linguistics. At the Ph.D. level, the program provides opportunities for advanced study and research in Spanish Peninsular Literature, Spanish American Literature, and Hispanic Linguistics as it trains scholars for careers in higher education.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Areas of Specialization: Areas of specialization include:

- Spanish Peninsular Literature
- Spanish American Literature
- Hispanic Linguistics

Job Prospects: The department has an excellent record of placing graduates as full-time faculty in public and private universities. Non-Matriculated Student Policy: Non-matriculated students may take up to three courses with approval of the department or Graduate Chair.

Financing Opportunities: Teaching Assistants typically teach basic and intermediate Spanish or conversation, composition, and reading courses. Assistantships carry a stipend and tuition remission. Candidates for Teaching Assistantships should express their interest and special needs in an addendum to the personal statement of the application to the graduate program.

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Applications are evaluated as they arrive, with attention paid to deadlines.

APPLY ONLINE to this graduate program to begin the application process and receive your TUid number.

Next, visit http://cla.temple.edu/interfolio/spanish-phd to create or log in to your Interfolio account. Complete the supplemental program application and upload scanned copies of all supporting documents to your account, with these exceptions:

- Scores for the GRE and TOEFL, if applicable, must be reported directly by ETS to institution code 2906.
- Official electronic transcripts must be sent to spangrad@temple.edu or the originals mailed to:

  Annette Vega, Graduate Coordinator
  Temple University College of Liberal Arts
  Spanish Graduate Program
  1114 W. Polett Walk, 428 Anderson Hall (022-34)
  Philadelphia, PA 19122-6090

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members with personal knowledge of the applicant's academic and scholarly achievements.

Master's Degree in Discipline/Related Discipline: A master's degree in Spanish with an emphasis in Literature and/or Linguistics is required.

Bachelor's Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Statement of Goals: Approximately 2 to 3 pages include your interest in Temple's Spanish program, future career goals, research goals, academic achievements, and any related experience. Applicants interested in Teaching Assistantships, Fellowships, or other financial support may describe special needs in an addendum to their personal statement.

Standardized Test Scores:

- Scores for the GRE and TOEFL, if applicable, must be reported directly by ETS to institution code 2906.

GRE: Required. Typical GRE scores range from 153 to 166 in verbal reasoning and 144 to 155 in quantitative reasoning or 500 to 700 on the old version of the GRE. Applicants from Spanish-speaking countries may present EXADEP scores instead.

International applicants are required to provide scores from one of the following tests: Test of English as a Foreign Language (TOEFL®), the International English Language Testing System (IELTS™), or the Pearson Test of English Academic (PTE Academic™).

Resume: Current resume required.

Writing Sample: A paper or journal article in Spanish is required as a writing sample.

Advanced Standing: Students are awarded advanced standing based on a review of transcripts and descriptions of previous graduate coursework in Spanish Literature or Spanish Linguistics. The maximum number of advanced standing credits awarded is 30.

**Program Requirements**

**General Program Requirements:**

*Number of Credits Required Beyond the Master's:* 39

**Required Courses**:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPAN 8001</td>
<td>Hispanic Bibliography and Research</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 8161</td>
<td>Critical Approaches to Hispanic Literature</td>
<td>3</td>
</tr>
</tbody>
</table>

**Other Courses**

6-7 courses in Spanish Peninsular Literature, Spanish American Literature, and Hispanic Linguistics

2-3 approved courses in related fields outside the Department of Spanish and Portuguese

**Non-Didactic Courses**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPAN 9994</td>
<td>Preliminary Examination Preparation</td>
<td>6</td>
</tr>
<tr>
<td>SPAN 9998</td>
<td>Pre-Dissertation Research</td>
<td></td>
</tr>
<tr>
<td>SPAN 9999</td>
<td>Dissertation Research</td>
<td></td>
</tr>
</tbody>
</table>

**Total Credit Hours:** 39

1. Coursework, including master's-level courses, must include 10-11 core courses, which combine a 6-course core distribution requirement and other specific core courses, and 10-11 courses beyond the core, including 6 courses in the dissertation field and a minimum of 5 advanced courses. A total of 21 courses is required, including those for the master's degree.

2. 18 credits minimum

3. 9 credits maximum

**Language Examination:** Students must pass written reading-comprehension examinations in two foreign languages other than Spanish. Examinations are usually taken in the Romance languages or German. Other languages may be accepted with approval.

**Culminating Events:**

**Preliminary Examination:**

The purpose of the written preliminary examination is to demonstrate critical and interpretive knowledge in two specific areas of Hispanic Studies chosen by the doctoral student and approved by the faculty. The doctoral student may customize the reading lists for the examination in accordance with research interests. The written examination lasts 10 hours. The preliminary examination should be completed no more than one term after the student completes the coursework component of the program.

Examination areas are drawn from the three fields of study within the department: Spanish Peninsular Literature, Spanish American Literature, and Hispanic Linguistics. Graduate Faculty members specializing in the subject areas selected for the examination write the questions for the preliminary examination and evaluate the examination. Each member grades examination answers on a scale of "A" to "F." A grade of "B-" or higher must be achieved in response to each question. The evaluators look for breadth and depth of understanding of specific research areas; the critical application of knowledge in response to specific exam questions; and an ability to write in a clear and concise manner using appropriate terminology.

The preliminary examination is given over a period of two weeks. Students who are preparing to write their preliminary examinations must meet with the Graduate Chair to register and confirm.

**Proposal:**

The dissertation proposal demonstrates the student's knowledge and ability to conduct the proposed research. The proposal typically consists of the presentation of the context and background surrounding a particular research question or problem; a survey and review of pertinent literature; and a detailed methodological plan for carrying out the proposed research. The proposal should be completed and approved by the student's Doctoral Advisory Committee no more than one year after the student completes coursework.

**Dissertation:**

The doctoral dissertation is an original empirical or theoretical study that makes a significant contribution to the field of Hispanic Studies. It should expand existing knowledge and demonstrate the student's mastery of research methods and of her/his primary area of research. The dissertation should be rigorously investigated, uphold the ethics and standards of the field, and demonstrate an understanding of the relationship between the primary area of research and the broader field of Hispanic Studies.

The Doctoral Advisory Committee is formed to oversee the student's dissertation research and is comprised of three Graduate Faculty members. One is the Committee Chair, who has responsibility for directly overseeing and guiding the student's progress, coordinating the responses of the Committee members, and informing the student of her/his academic progress.

The Dissertation Examining Committee is comprised of the Doctoral Advisory Committee and at least one additional examiner from outside the Department of Spanish and Portuguese. The outside examiner should be identified no later than the beginning of the term in which the student plans to defend the dissertation. The Dissertation Examining Committee evaluates the student's dissertation and public oral examination, including the student's ability to express verbally her/his research question, methodological approach, primary findings, and implications. The Committee votes to pass or fail the dissertation and the defense at the conclusion of the public oral defense.

If a student needs to change a member of a Committee, the new member must be approved by the department's Graduate Committee and registered with the Graduate Secretary and the Graduate School.
Students who are preparing to defend their dissertation must confirm a time and date with their Doctoral Advisory Committee Chair at least one month before the defense is to be held. After the Chair has arranged the time, date, and room for the defense, a completed "Announcement of Dissertation Defense" form, found in TUportal under the Tools tab within "University Forms," must be delivered to the Graduate School by the student at least 10 days before the defense. The department posts flyers announcing the defense.

Contacts

Program Web Address:
http://www.cla.temple.edu/spanish/graduate/

Department Information:
Dept. of Spanish and Portuguese
428 Anderson Hall
1114 W. Polett Walk
Philadelphia, PA 19122-6090
spangrad@temple.edu
215-204-8285

Submission Address for Application Materials:
http://cla.temple.edu/interfolio/spanish-phd

Submission Address for Official Electronic Transcripts:
spangrad@temple.edu

Submission Address for Official Paper Transcripts:
Annette Vega, Graduate Coordinator
Temple University Spanish Graduate Program
1114 W. Polett Walk, 428 Anderson Hall (022-34)
Philadelphia, PA 19122-6090

Department Contacts:
Admissions:
Victor Pueyo
vpueyozo@temple.edu
215-204-5129

Program Coordinator:
Victor Pueyo
vpueyozo@temple.edu
215-204-5129

Graduate Chairperson:
Victor Pueyo
vpueyozo@temple.edu
215-204-5129

Chairperson:
Hiram Aldarondo
halderon@temple.edu
215-204-1706

Graduate Certificate: Crime Science

COLLEGE OF LIBERAL ARTS (https://liberalarts.temple.edu)

About the Certificate

The graduate certificate in Crime Science is designed to produce professionals who are qualified for analytical positions in policing and other branches of the criminal justice system, as well as in private industry or non-profit organizations that have an analytical function. Students in the program learn practical skills such as geospatial crime analysis and crime reduction evaluation through time series analysis, as well as develop a conceptual understanding of analytical strategies across the crime prevention domain. Graduating students are versed in the skill set designated by the International Association of Crime Analysts' (IACA) Certified Law Enforcement Analyst Program (CLEA). Upon completion of the certificate program, future and current crime analysts are better equipped to undertake complex crime and offender analysis; describe the scientific method and its application to crime analysis; and appraise and apply the latest research in evidence-based policing, especially in relation to crime, harm, and disorder in the community. They also demonstrate a broad range of GIS data management skills.

Time Limit for Certificate Completion: 2 years

Students undertaking coursework for the graduate certificate can decide to continue with the M.A. program in Criminal Justice. They can either:

- Complete the certificate, and transfer 6 credits in to the M.A., or
- Forgo the graduate certificate, and transfer all completed credits (up to 12) into the M.A. program.

Note that students who undertake both the graduate certificate in Crime Science and the graduate certificate in Police Leadership are only able to complete seven of eight required classes for the pair because the certificates share CJ 5001 Evidence-Based Policing. Those students are then required to take one class from the department's existing graduate program.

Campus Location: Main, with CJ 5001 Evidence-Based Policing offered at the Philadelphia Police Department Police Academy in Northeast Philadelphia

Full-Time/Part-Time Status: The graduate certificate is completed on a part-time basis. Students take one course per academic term over 16 months: Fall, Spring, Summer, and Fall. Classes are held in the evening to accommodate working professionals.

Job Prospects: The certificate program is chiefly available to individuals who are currently employed in a role that requires relevant professional experience. Examples include those working in a police department or as a loss prevention leader with a private firm.

Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits of coursework before applying to the graduate certificate program.

Admission Requirements and Deadlines

Application Deadline:
Fall: Admission is offered as part of a cohort for the Fall term.
Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators, typically college/university faculty or an immediate work supervisor, who can provide insight into the applicant's aptitude for graduate study.

Bachelor's Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University. An undergraduate GPA of 3.0 — or 2.5 with at least two years of relevant professional experience — is required.

Statement of Goals: In 500 to 1,000 words, outline your interest in seeking a Crime Science certificate and your professional experience in the field.

Standardized Test Scores:
TOEFL score (international applicants only): 88 iBT or 575 PBT minimum. Proficiency in the use of spoken and written English is required. Students whose first language is not English will need to meet the University's English language requirement.

Resume: Current resume required.

Certificate Requirements
Number of Credits Required to Complete the Certificate: 12

Required Courses:

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CJ 5001 Evidence-Based Policing</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Term Credit Hours</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Spring</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CJ 8232 Crime Mapping</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Term Credit Hours</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Summer</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CJ 5011 Influencing Decision-Makers</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Term Credit Hours</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Year 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fall</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CJ 5012 Crime Science Tools and Techniques</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Term Credit Hours</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours: 12

Contacts
Certificate Program Web Address: https://www.cla.temple.edu/criminal-justice/graduate/

Admissions Information:
Dept. of Criminal Justice
512 Gladfelter Hall
1115 W. Polett Walk
Philadelphia, PA 19122-6089
CJGRAD@temple.edu

Mailing Address for Application Materials:
Dept. of Criminal Justice
512 Gladfelter Hall (025-02)
1115 W. Polett Walk
Philadelphia, PA 19122-6089

Department Contacts:
Graduate Chairperson:
Dr. Jamie Fader
jfader@temple.edu
215-204-7918

Chairperson:
Dr. Cathy Rosen
crosen@temple.edu
215-204-1089

Graduate Certificate: Gender, Sexuality and Women's Studies

About the Certificate
Students in the Gender, Sexuality and Women’s Studies (GSWS) graduate certificate program acquire and develop methodological and theoretical expertise in the interdisciplinary field of Gender, Sexuality, and Women’s Studies. The certificate can be pursued by graduate students already enrolled in a Temple University graduate degree program. They complete the certificate requirement while simultaneously fulfilling the graduate requirements for their degree-granting department.

The GSWS graduate certificate program can also be undertaken as a freestanding certificate by persons who are not enrolled in a Temple University graduate degree program. In addition, students who are not enrolled in a Temple graduate degree program but are enrolled in a graduate degree program at another university may apply for the GSWS graduate certificate by completing an external application form.

All students complete the same course requirements to earn the certificate. And all certificate students join and benefit from a community of graduate students and faculty committed to the study of gender and sexuality in a wide range of disciplines.

Time Limit for Completion of Certificate Coursework: 3 years

Temple graduate students typically take GSWS 8001 Introduction to Feminist Studies and GSWS 9991 Seminar in Feminist Research in their first year of graduate study. Each year, GSWS 8001 is offered in the Fall term and GSWS 9991 is offered in the Spring term. Students may take GSWS 9991 in the Spring term of their first year and GSWS 8001 in the Fall term of their second year, as well as their graduate-level GSWS-related electives during the first two years of their degree program, but exceptions can be made for taking one of the courses in the third year. Certificate students who are not enrolled in a Temple University graduate degree program may take the required coursework in any order they wish within a 3-year period.

Campus Location: Main
Full-Time/Part-Time Status: The graduate certificate is completed on a part-time basis. Students undertaking the GSWS graduate certificate while enrolled in a graduate degree program at Temple complete the certificate while fulfilling the requirements for their graduate degree program.

Job Prospects: The GSWS graduate certificate is a credential that enhances students’ prospects in today’s highly competitive academic job market by signaling a demonstrated interest in and commitment to diversity and inclusion. Students are able to apply the expertise gained in the certificate program to their scholarly research and teaching interests. Many colleges and universities are looking for job candidates who can both teach mainstream courses in academic departments as well as teach courses that focus on gender and/or sexuality within those departments. All of these factors make the certificate both intellectually enriching and practically useful.

Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits of coursework before applying to the graduate certificate program.

Admission Requirements and Deadlines

Application Deadline:

Fall and Spring: Applications must be submitted by the end of the add/drop period.

Students currently enrolled in a graduate degree program at Temple University apply on the GSWS graduate certificate internal application webpage (https://docs.google.com/forms/d/e/1FAIpQLSeZNCauCEq-ryIC6-O_T6D6gfSNpbyR71NT1e7LujiMcq39/preview). Questions should be directed to Heath Fogg Davis, GSWS Program Director, at hfd@temple.edu.

Students not currently enrolled at Temple apply via an external application form, which is available on the GSWS graduate certificate external application webpage (https://goo.gl/forms/UB0BbMUnHrJ3xZm2).

Bachelor’s Degree in Discipline/Related Discipline: Applicants already admitted to a graduate degree program at Temple University have demonstrated that they possess the required bachelor’s degree. Applicants not currently enrolled in a Temple University graduate degree program and applicants enrolled in a graduate degree program at another university must submit official transcripts for all coursework taken since high school, whether or not a degree was earned from the institution(s). Evidence of the award of a baccalaureate degree from an accredited university with an undergraduate GPA of at least 3.0 on a 4.0 scale must be shown.

Additional Requirements for Students Not Currently Enrolled in a Graduate Degree Program at Temple University:

- Two letters of recommendation from persons in a position to evaluate the applicant’s academic ability and accomplishments
- A personal statement of no more than 250 words indicating interests, plans, and objectives within the field of Gender, Sexuality, and Women’s Studies

Certificate Requirements

Number of Credits Required to Complete the Certificate: 12

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSWS 8001</td>
<td>Introduction to Feminist Studies</td>
<td>3</td>
</tr>
<tr>
<td>GSWS 9991</td>
<td>Seminar in Feminist Research</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>1</td>
<td>6</td>
</tr>
</tbody>
</table>

Total Credit Hours 12

1 Students take 6 credits of approved courses focusing on gender and/or sexuality from their own department, if enrolled in a graduate degree program at Temple, or any academic department at Temple University, as identified in the list below. Note that the following list is not exhaustive, and students may request permission to take other gender/sexuality-themed courses on a case-by-case basis.

Approved Electives with a Gender and/or Sexuality Theme

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAAS 9645</td>
<td>Seminar in the African American Woman</td>
<td></td>
</tr>
<tr>
<td>ANTH 5355</td>
<td>Anthropology of Sexuality and Gender</td>
<td></td>
</tr>
<tr>
<td>ANTH 5358</td>
<td>Race and Class in North America</td>
<td></td>
</tr>
<tr>
<td>CJ 8202</td>
<td>Corrections</td>
<td></td>
</tr>
<tr>
<td>CPSY 5526</td>
<td>Multicultural Counseling</td>
<td></td>
</tr>
<tr>
<td>CPSY 8789</td>
<td>Seminar in Race, Culture, and Gender in Psychotherapy</td>
<td></td>
</tr>
<tr>
<td>DANC 8872</td>
<td>Educating Dance</td>
<td></td>
</tr>
<tr>
<td>DANC 9861</td>
<td>Dance and the Gendered Body: Historical Perspectives</td>
<td></td>
</tr>
<tr>
<td>EDAD 5615</td>
<td>Gender Issues in Education</td>
<td></td>
</tr>
<tr>
<td>EPBI 8011</td>
<td>Social Epidemiology</td>
<td></td>
</tr>
<tr>
<td>GUS 5097</td>
<td>Race, Class, Gender in Cities</td>
<td></td>
</tr>
<tr>
<td>HIED 5801</td>
<td>Gender Issues in Education</td>
<td></td>
</tr>
<tr>
<td>HIST 5231</td>
<td>Gender and Sexuality in Asia</td>
<td></td>
</tr>
<tr>
<td>HIST 5800</td>
<td>Comparative Women’s History</td>
<td></td>
</tr>
<tr>
<td>HIST 8009</td>
<td>Women and Gender in the American South</td>
<td></td>
</tr>
<tr>
<td>HIST 8402</td>
<td>Jewish History</td>
<td></td>
</tr>
<tr>
<td>HIST 8707</td>
<td>History of Sexuality</td>
<td></td>
</tr>
<tr>
<td>KINS 9403</td>
<td>Sociology of Kinesiology</td>
<td></td>
</tr>
<tr>
<td>MLA 5150</td>
<td>Topics in Gender Studies</td>
<td></td>
</tr>
<tr>
<td>PHIL 5217</td>
<td>Feminist Epistemology and the Philosophy of Science</td>
<td></td>
</tr>
<tr>
<td>RCTH 5212</td>
<td>Play and Development</td>
<td></td>
</tr>
<tr>
<td>REL 8012</td>
<td>Religion and Sexuality</td>
<td></td>
</tr>
<tr>
<td>REL 8401</td>
<td>Race, Gender, Class and Ethnicity in Ancient Near East</td>
<td></td>
</tr>
<tr>
<td>SOC 5321</td>
<td>Sexuality and Gender</td>
<td></td>
</tr>
<tr>
<td>SOC 8401</td>
<td>Sexuality and Gender</td>
<td></td>
</tr>
<tr>
<td>SOC 8411</td>
<td>Gender and Body</td>
<td></td>
</tr>
<tr>
<td>SSWG 8603</td>
<td>Advanced Human Behavior and the Social Environment - Gender and Sexuality through the Lifespan</td>
<td></td>
</tr>
<tr>
<td>SSWG 8607</td>
<td>Advanced Policy - Gender and Sexuality</td>
<td></td>
</tr>
</tbody>
</table>
Culminating Event:
Research Requirement:
A research requirement must be fulfilled to earn the GSWS graduate certificate:

- Students currently enrolled in a graduate degree program at Temple fulfill this requirement by writing a thesis or dissertation that considers gender and/or sexuality in some way. The entirety of the student's thesis or dissertation might be focused on gender and/or sexuality, or these themes may be central to a single chapter or section.
- Students not enrolled in a Temple University graduate degree program write a research paper as part of their coursework in GSWS 9991 Seminar in Feminist Research that considers gender and/or sexuality in some way.

Contacts
Certificate Program Web Address:
https://www.cla.temple.edu/gender-sexuality-and-womens-studies/graduate/

Submission Address for Applications for Currently Enrolled Temple University Students:
https://docs.google.com/forms/d/e/1FAIpQLSeZNCauCEq-rYIC6-Q_T6D6gfnSNBpyR71NT1e7LuiMcjBzOg/viewform

Submission Address for Applications and Supporting Materials for Applicants Not Currently Enrolled at Temple University:
https://goo.gl/forms/UB0BbMUhDJ3XzDWm2

Department Contacts:
Administrator:
Stephanie Morawski
morawski@temple.edu
215-204-8516

GSWS Program Director:
Heath Fogg Davis, Ph.D.
hfd@temple.edu

Graduate Certificate: Geographic Information Systems

COLLEGE OF LIBERAL ARTS (https://liberalarts.temple.edu)

About the Certificate
The 21st century is increasingly defined by the incorporation of spatial technologies into everyday life. Geographic information has become one of the linchpins of the Information Age, whether through the proliferation of the civilian global positioning system, mobile and fixed platforms for reporting locational information, or, most crucially, the increasing interest in computational and analytical tools focused on this information (i.e., Geographic Information Systems [GIS]). While geographic information is increasingly integrated into the fabric of everyday life, this explosion in interest in GIS is fueling demand for well-trained professional practitioners. Our courses introduce students to a variety of cutting-edge spatial analysis technology and mapping software.

GIS is a rapidly growing field with applications across the social sciences, sciences, and professional fields. Because applications of GIS are pervasive across many fields and industries, the U.S. Department of Labor estimates that the geospatial technology market is growing at an annual rate of 35 percent. The Department of Geography and Urban Studies faculty have expertise in a range of GIS applications, including urban, health, environment, business, location analysis, geovisualization, and remote sensing.

The certificate complements our Professional Science Master’s in GIS and may serve as a gateway into the program. Students in the certificate program pursue a curriculum that provides training in GIS that also complements graduate programs offered in the College of Education, College of Liberal Arts, College of Public Health, College of Science and Technology, Fox School of Business and Management, and the School of Media and Communication.

Time Limit for Certificate Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: The graduate certificate can be completed on a part-time basis.

Job Prospects: Training in GIS prepares individuals to take on advanced research positions in technology-based companies, governmental agencies, and non-profit organizations. The array of electives for the certificate allows students to specialize in the areas of their professional or academic interests.

Non-Matriculated Student Policy: Courses are available to non-matriculated graduate students with approval from the Graduate Chair or Assistant Director. Non-matriculated students may take up to 9 credits prior to matriculation. If accepted into the program, these credits may be applied toward the certificate. Please contact psmgis@temple.edu for more information about registering as a non-matriculated student.

Admission Requirements and Deadlines
Application Deadline:
Fall and Spring: Admission is on a rolling basis. Interested students should contact psmgis@temple.edu for permission to enroll in coursework. Students are processed by the Office of Continuing Studies.

Bachelor's Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Certificate Requirements
Number of Credits Required to Complete the Certificate: 12

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GUS 5062</td>
<td>Fundamentals of Geographical Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>or GUS 8067</td>
<td>Spatial Database Design</td>
<td></td>
</tr>
</tbody>
</table>

Electives 9
Select three from the following:

- GUS 5000 Special Topic Seminars
- GUS 5061 Cartographic Production
- GUS 5063 Remote Sensing
- GUS 5065 Urban Geographical Information Systems
- GUS 5066 Environmental Applications of GIS
- GUS 5067 GIS and Location Analysis
- GUS 5068 Census Analysis with Geographical Information Systems
- GUS 5069 GIS for Health Data Analysis
- GUS 5072 Advanced Remote Sensing
- GUS 5073 Geovisualization
- GUS 5162 Advanced Statistics for Urban Applications
- GUS 8065 Cartographic Design
- GUS 8066 Application Development for Geographic Information Systems
- GUS 8067 Spatial Database Design
- GUS 8068 Web Mapping and Map Servers

Total Credit Hours: 12

1. Matriculated graduate students may take certificate courses as electives for their program of study with the approval of their program advisor.
2. GUS 8067 Spatial Database Design is required if GUS 5062 Fundamentals of Geographical Information Systems has already been taken at any level or if the student has equivalent industry experience. Permission is required from the Graduate Chair or Assistant Director.
3. Or select any course within the range of GUS 5030-5040 and GUS 8060-8070 as an elective toward the certificate.
4. One GUS 5000 Special Topic Seminars course with a focus on Spatial Analysis may be used toward the certificate. Special Topic courses must be approved by the Graduate Chair or Assistant Director.

Contacts

Certificate Program Web Address:
https://www.cla.temple.edu/geography-and-urban-studies/graduate/

Admissions Information:
Dept. of Geography and Urban Studies
308 Gladfelter Hall (025-27)
1115 W. Polett Walk
Philadelphia, PA 19122-6089
psmgis@temple.edu
215-204-7692

Department Contacts:
Senior Manager, Administration:
Vicki Giammarco
vicki.giammarco@temple.edu
215-204-7692

Program Coordinator:
Liz Janczewski
psmgis@temple.edu

Assistant Director:
Lee Hachadoorian
lee.hachadoorian@temple.edu
215-204-3331

Graduate Chairperson:
Dr. Kevin A. Henry
khenry1@temple.edu
215-204-2961

Chairperson:
Dr. Melissa Gilbert
mgilbert@temple.edu
215-204-7692

Graduate Certificate: Police Leadership

COLLEGE OF LIBERAL ARTS (https://liberalarts.temple.edu)

About the Certificate

The graduate certificate in Police Leadership is designed to provide police practitioners with a thorough understanding of the leadership challenges that face police command staff in an operational environment. Students in the program undertake a field of study designed to equip police leaders with a skill set tuned to 21st-century policing. Courses explore decision-making styles and individual leadership characteristics; evidence-based policing and decision-making in the context of operational command and community crime reduction; ethical governance and workplace management; and an executive seminar involving organizational leaders from within and outside of policing. Upon completion of the certificate program, policing practitioners are better equipped to consume research evidence; describe best practice in leadership roles across complex work environments, especially in relation to crime, harm, and disorder in the community; and develop their own leadership traits.

Time Limit for Certificate Completion: 2 years

Students undertaking coursework for the graduate certificate can decide to continue with the M.A. program in Criminal Justice. They can either:

- Complete the certificate, and transfer 6 credits in to the M.A., or
- Forgo the graduate certificate, and transfer all completed credits (up to 12) into the M.A. program.

Note that students who undertake both the graduate certificate in Police Leadership and the graduate certificate in Crime Science are only able to complete seven of eight required classes for the pair because the certificates share CJ 5001 Evidence-Based Policing. Those students are then required to take one class from the department's existing graduate program.

Campus Location: Main, with CJ 5001 Evidence-Based Policing offered at the Philadelphia Police Department Police Academy in Northeast Philadelphia

Full-Time/Part-Time Status: The graduate certificate is completed on a part-time basis. Students take one course per academic term over 16
months: Fall, Spring, Summer, and Fall. Classes are held in the evening to accommodate working professionals.

Job Prospects: The certificate program is chiefly available to individuals who are currently employed in a role that requires relevant professional experience. Examples include those working in a police department or as a loss prevention leader with a private firm.

Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits of coursework before applying to the graduate certificate program.

Admission Requirements and Deadlines

Application Deadline:
Fall: Admission is offered as part of a cohort for the Fall term.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators, typically college/university faculty or an immediate work supervisor, who can provide insight into the applicant’s aptitude for graduate study.

Bachelor’s Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University. An undergraduate GPA of 3.0 — or 2.5 with at least two years of relevant professional experience — is required.

Statement of Goals: In 500 to 1,000 words, outline your interest in seeking a Police Leadership certificate and your professional experience in the field.

Standardized Test Scores:
TOEFL score (international applicants only): 88 iBT or 575 PBT minimum. Proficiency in the use of spoken and written English is required. Students whose first language is not English will need to meet the University’s English language requirement.

Resume: Current resume required.

Certificate Requirements

Number of Credits Required to Complete the Certificate: 12

Required Courses:

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
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<tr>
<td>CJ 5001 Evidence-Based Policing</td>
<td>3</td>
</tr>
<tr>
<td>Term Credit Hours</td>
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<tr>
<td><strong>Spring</strong></td>
<td></td>
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<tr>
<td>CJ 5021 Ethical Governance</td>
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<td>Term Credit Hours</td>
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<td><strong>Summer</strong></td>
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<tr>
<td>CJ 5022 Developmental Leadership</td>
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<tr>
<td>Term Credit Hours</td>
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<tr>
<td><strong>Year 2</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Fall</strong></td>
<td></td>
</tr>
</tbody>
</table>

Contacts

Certificate Program Web Address:
https://www.cla.temple.edu/criminal-justice/graduate/

Admissions Information:

Dept. of Criminal Justice
512 Gladfelter Hall
1115 W. Polett Walk
Philadelphia, PA 19122-6089
CJGRAD@temple.edu
215-204-7918

Mailing Address for Application Materials:

Dept. of Criminal Justice
512 Gladfelter Hall (025-02)
1115 W. Polett Walk
Philadelphia, PA 19122-6089

Department Contacts:

Graduate Chairperson:
Dr. Jamie Fader
jfader@temple.edu
215-204-7918

Chairperson:
Dr. Cathy Rosen
crosen@temple.edu
215-204-1089
Lew Klein College of Media and Communication

The Lew Klein College of Media and Communication (KCMC) at Temple University is one of the most prominent of its kind in the nation. Combining a history of success with an eye on the constantly shifting horizon, Klein College offers one of the most advanced and diverse programs for learning and networking in the communications field.

With a superb faculty, diverse student body, and location in the nation's fourth-largest media market, KCMC is one of the most exciting places in the world to study the role and many facets of communication in public life. Possessing an array of experience and expertise, KCMC faculty range from world-renowned scholars to Pulitzer Prize-winning practitioners. All are dedicated to teaching and ensuring that our school is a powerful force for innovation, diversity, and social justice. We foster curiosity in our students and encourage their willingness to begin with tough questions and challenge themselves and each other in pursuing truth. Our students graduate with the confidence to communicate effectively across cultures.

Klein College students learn by doing. Classrooms provide hands-on training using industry-standard technology. All KCMC facilities are uniquely outfitted for the teaching, research, and production of all disciplines of communications study. Annenberg Hall is home to:

- A 75-seat film and video screening room
- Broadcast and film production areas
- Electronic news writing and editing rooms
- Journalism and photography labs
- Multimedia labs
- Video and film editing areas
- Three fully-equipped studios for educational use, including videography, television direction, and broadcast performance

At Temple University Center City, the Multimedia Urban Reporting Lab (MURL) is a newsroom that features wireless networking, digital recorders, access to the AP wire, and video equipment.

Since the founding of the Department of Journalism in 1927, the structure and curriculum of the communications program have been evolving to meet the demands and expectations of a changing media landscape. Key events include:

- In 1967, the School of Communications and Theater was formed by combining the Department of Journalism and the Department of Radio, Television and Film.
- Also in 1967, the first graduate degree was offered in an M.F.A. in Theater, which was followed four years later by an M.F.A. in Film and Video.
- In 2010, TUTV, Temple's digital cable channel, was launched within the city of Philadelphia on Comcast and Verizon, as well as online at http://templetv.net/.
- In 2012, the school was renamed the School of Media and Communication when a University realignment of schools and colleges moved the Department of Film and Media Arts and Department of Theater to a new Center for the Arts.
- In March 2017, in celebration of the school's 50th anniversary, an official renaming made it the Lew Klein College of Media and Communication. The name change honors broadcasting pioneer Lew Klein. Klein began teaching TV courses at Temple University in 1952, while he also worked as an executive at WFIL-TV (now WPVI) in Philadelphia. In the ensuing 65 years, he helped launch the careers of hundreds of professionals, including NBC Today co-anchor Matt Lauer; CBS Evening News Executive Producer Steve Capus, SMC '86; comedian Bob Saget, SMC '78; and the late host and producer Dick Clark. In addition to serving as executive producer of American Bandstand and producing legendary Philadelphia-area programs, such as Captain Noah and His Magical Ark, Klein played an instrumental role in launching Channel 6's Action News format as program director of the station in 1970. He also spent 15 years producing Philadelphia Phillies telecasts and was president of Gateway Communications, which owned four TV stations in the East. Throughout his momentous career, Klein taught as a part-time adjunct professor at Temple.

Programs

Degree Programs and Certificates

- Communication Management, M.S. (p. 614)
- Globalization and Development Communication, M.S. (p. 615)
- Journalism, M.J. (p. 616)
- Media and Communication, Ph.D. (p. 618)
- Media Studies and Production, M.A. (p. 620)
- Graduate Certificate: Conflict Management and Dispute Resolution (p. 622)
- Graduate Certificate: Strategic Communication and Cross-Cultural Leadership (p. 623)

Graduate Faculty

Jennifer Gerard Ball, Assistant Professor, Department of Advertising and Public Relations, Lew Klein College of Media and Communication; Ph.D., University of Texas at Austin.

Geoffrey Baym, Professor, Department of Media Studies and Production, Lew Klein College of Media and Communication; Ph.D., University of Utah.

Deborah Cai, Professor, Department of Communication and Social Influence, Lew Klein College of Media and Communication; Ph.D., Michigan State University.

Jessica Castonguay, Assistant Professor, Department of Advertising and Public Relations, Lew Klein College of Media and Communication; Ph.D., University of Arizona.

Brian Creech, Assistant Professor, Department of Journalism, Lew Klein College of Media and Communication; Ph.D., University of Georgia.

Fabienne L. Darling-Wolf, Professor, Department of Journalism, Lew Klein College of Media and Communication; Ph.D., University of Iowa.

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Tricia S. Jones, Professor, Department of Communication and Social Influence, Lew Klein College of Media and Communication; Ph.D., The Ohio State University.

Carolyn L. Kitch, Professor, Department of Journalism, Lew Klein College of Media and Communication; Ph.D., Temple University.

Lauren Kogen, Assistant Professor, Department of Media Studies and Production, Lew Klein College of Media and Communication; Ph.D., University of Pennsylvania.

Magdalena Konieczna, Assistant Professor, Department of Journalism, Lew Klein College of Media and Communication; Ph.D., University of Wisconsin-Madison.

Heather LaMarre, Associate Professor, Department of Communication and Social Influence, Lew Klein College of Media and Communication; Ph.D., The Ohio State University.

John A. Lent, Professor Emeritus, Department of Media Studies and Production, Lew Klein College of Media and Communication; Ph.D., University of Iowa.

Matthew Lombard, Associate Professor, Department of Media Studies and Production, Lew Klein College of Media and Communication; Ph.D., Stanford University.

Larisa Kingston Mann, Assistant Professor, Department of Media Studies and Production, Lew Klein College of Media and Communication; Ph.D., University of California, Berkeley Law.

Michael L. Maynard, Associate Professor, Department of Advertising and Public Relations, Lew Klein College of Media and Communication; Ph.D., Rutgers University.

George W. Miller III, Associate Professor (Practice), Department of Journalism, Lew Klein College of Media and Communication; M.J., Columbia University.

David T.Z. Mindich, Professor, Department of Journalism, Lew Klein College of Media and Communication; Ph.D., New York University.

Logan K. Molyneux, Assistant Professor, Department of Journalism, Lew Klein College of Media and Communication; Ph.D., University of Texas at Austin.

Nancy E. Morris, Professor, Department of Media Studies and Production, Lew Klein College of Media and Communication; Ph.D., University of Pennsylvania.

Katherine A. Mueller, Assistant Professor, Department of Advertising and Public Relations, Lew Klein College of Media and Communication; M.F.A., Temple University.

Patrick D. Murphy, Associate Professor, Department of Media Studies and Production, Lew Klein College of Media and Communication; Ph.D., Ohio University.

Wazhmah Osman, Assistant Professor, Department of Media Studies and Production, Lew Klein College of Media and Communication; Ph.D., New York University.

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Devon Powers, Associate Professor, Department of Advertising and Public Relations, Lew Klein College of Media and Communication; Ph.D., New York University.

Cornelius B. Pratt, Professor, Department of Advertising and Public Relations, Lew Klein College of Media and Communication; Ph.D., University of Minnesota.

Clemencia Rodriguez, Professor, Department of Media Studies and Production, Lew Klein College of Media and Communication; Ph.D., Ohio University.

Soomin Seo, Assistant Professor, Department of Journalism, Lew Klein College of Media and Communication; Ph.D., Columbia University.

Adrienne Shaw, Associate Professor, Department of Media Studies and Production, Lew Klein College of Media and Communication; Ph.D., University of Pennsylvania.

Larry Stains, Associate Professor (Teaching/Instructional), Department of Journalism, Lew Klein College of Media and Communication; M.J., Columbia University.

Edward J. Trayes, Professor, Department of Journalism, Lew Klein College of Media and Communication; Ph.D., University of Iowa.

Karen M. Turner, Associate Professor, Department of Journalism, Lew Klein College of Media and Communication; J.D., Northwestern University School of Law.
Communication Management, M.S.

LEW KLEIN COLLEGE OF MEDIA AND COMMUNICATION (https://klein.temple.edu)

About the Program

The Master of Science in Communication Management is a professionally oriented program focused on deep exploration of communication principles and practices. It features coursework in key areas such as audience analysis, communication strategies for emerging media, organizational communication, and research and data synthesis. Emphasizing strategic communication in the workplace and public communication, this program prepares entry-level and mid-career professionals to engage in effective communication campaigns as well as handle conflict and crisis management.

The program is offered completely online through an exciting combination of webinar and teleseminar courses. This combination allows students to learn through both online interaction with faculty as well as through learning resources that they may individually access at their convenience.

Time Limit for Degree Completion: 4 years

Campus Location: Online

Full-Time/Part-Time Status: The online program, which can be completed on a full-time or part-time basis, is designed to be completed in one year. All courses are offered for seven weeks in synchronous or asynchronous formats, can be taken in any order, and have no prerequisites.

Areas of Specialization: Optional concentrations are offered in:

- Conflict Management and Dispute Resolution
- Strategic Communication and Cross-Cultural Leadership
- Audience Analysis and Communication Strategies for Emerging Media
- Organizational Communication
- Research and Data Synthesis
- Public Communication
- Strategic Leadership and Organizational Communication
- Communication Management

Job Prospects: Graduates of the M.S. in Communication Management program have gained the effective executive skills to manage different organizational demands such as crisis management, cross-cultural conflict, employee dispute resolution, leading diverse teams, and responsible decision making in both corporate and non-corporate institutions. They are prepared to serve in corporate and nonprofit organizations, public and government relations, and public and political advocacy.

Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits before submitting an application.

Financing Opportunities: Funding is not available for this program.

Admission Requirements and Deadlines

Application Deadline:
- Fall: February 15
- Spring: November 1

Applications are processed as they arrive up to the deadline date.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who are able to provide insight into the applicant's potential for professional achievement and aptitude for graduate study.

Bachelor's Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the baccalaureate degree at Temple University.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:
GRE: Optional. Scores at or above the 65th percentile are expected.
TOEFL: 105 iBT or 620 PBT minimum

Resume: Current resume or curriculum vitae required.

Writing Sample: If you elect to not submit GRE scores, you are required to submit one of the options below so that your readiness and ability/potential to engage rigorously with graduate-level work can be assessed:

1. Professional writing samples that you produced in a professional capacity, such as a project report, public relations release, or any internal communications. Please include a cover sheet indicating the purpose of the piece, intended audience, and if any analysis was done.
2. Academic paper or published article. Please include a cover sheet identifying the course and term for which the academic paper was written or for what publication and on what date the material was published.

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 31

Required Courses:
Globalization and Development Communication, M.S.

LEW KLEIN COLLEGE OF MEDIA AND COMMUNICATION (https://klein.temple.edu)

About the Program

The M.S. in Globalization and Development Communication is a 30-credit program designed to be completed in one year, with 18 credits of required core coursework, 9 credits in a specialization, and 3 credits of capstone field experience. The curriculum provides a comprehensive overview of management and communication theories and their implications for communication management; research methods tailored to media and development communication issues; and the design, implementation, and evaluation of development communication projects.

Time Limit for Degree Completion: 4 years, although the program is designed to be completed in one year.

Campus Location: Main, Center City

Full-Time/Part-Time Status: The program requires full-time enrollment.

Interdisciplinary Study: The program is designed to be interdisciplinary in nature.

Areas of Specialization: Areas of specialization include:

- Community Development
- Conflict, Peace and Human Rights
- Media Development and Advocacy
- Policy, Planning and Governance
- Public Health
- Sustainability and the Environment

Students may also design their own specialization.

Job Prospects: The program prepares graduates as development communication specialists who can help raise public understanding, build consensus, and generate change by effectively using the range of communication alternatives available, whether by facilitating processes of dialogue among stakeholders or through media campaigns, for governmental and non-governmental institutions.

Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits before submitting an application.

Financing Opportunities: Given that the program is designed to be completed in one year of full-time study, the Lew Klein College of Media and Communication does not offer graduate assistantships for those in the Globalization and Development Communication master's program.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1

Applications are processed on a continual basis.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators who are able to provide insight into the applicant’s potential for professional achievement and aptitude for graduate study.

Bachelor’s Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the baccalaureate degree at Temple University.

Statement of Goals: Include your special interests within the discipline and expectations for the program.

Standardized Test Scores:
GRE: Required. Scores at or above the 65th percentile are expected.

TOEFL: 105 iBT or 620 PBT minimum

Resume: Current resume or curriculum vitae is required.

Writing Sample: Submission of writing or research samples is optional.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

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<tr>
<th>Year 1</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>Summer II</td>
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<tr>
<td>GDC 8001 Seminar in Media, Communication and Development</td>
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<td>Term Credit Hours</td>
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<td>Fall</td>
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<tr>
<td>GDC 8003 Research Approaches in Communication, Development and Social Change</td>
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<tr>
<td>MSP 8275 #ourmedia: Community, Activist, Citizens’ and Radical Media</td>
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<td>Two Specialization Courses¹</td>
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<td>Term Credit Hours</td>
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<td>GDC 8002 Development Communication Project Design and Management</td>
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<td>JRN 5213 Solutions Journalism</td>
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<td>MSP 8254 Public Information Media Campaigns</td>
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<td>GDC 8089 Field Experience</td>
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</table>

¹ Students choose three courses in one area of specialization. Coursework options are identified at https://klein.temple.edu/communication-and-public-relations/master-science-globalization-and-development-communication/classes-and-curriculum for each of the six specializations: Community Development; Conflict, Peace and Human Rights; Media Development and Advocacy; Policy, Planning and Governance; Public Health; and Sustainability and the Environment. Additional courses from across the University can be employed in student-designed specializations.

Culminating Events:

Capstone Course:
The hybrid capstone course, GDC 8089 Field Experience, takes the form of an internship, special project, or service learning experience. It is offered in the Summer term.

Contacts

Program Web Address:

Department Information:
Lew Klein College of Media and Communication
344 Annenberg Hall
2020 N. 13th Street
Philadelphia, PA 19122-6080
kaitlin.pierce@temple.edu
215-204-8560

Submission Address for Application Materials:
https://apply.temple.edu/Klein/

Department Contacts:
Admissions:
Kaitlin Pierce
kaitlin.pierce@temple.edu
215-204-8560

Program Coordinator:
Thomas Jacobson, Ph.D.
tom.jacobson@temple.edu
215-204-8980

Journalism, M.J.

LEW KLEIN COLLEGE OF MEDIA AND COMMUNICATION (https://klein.temple.edu)

About the Program

The Master of Journalism program provides both introductory and advanced study for students who wish to begin or advance their careers in news and information, including broadcast and print reporters, magazine editors and writers, media managers, and those working in online news and information. Students receive instruction from award-winning media practitioners from the Philadelphia region and have the opportunity to study under a well-regarded faculty at a Research I
institution. Students may find many freelance and internship opportunities in the nation's fourth largest media market.

As of Fall 2018, the M.J. degree program has been restructured to allow students to develop a broader range of skills and deeper knowledge required to work across media platforms. It does so within a curriculum and through reporting projects that focus more directly on the problems and opportunities of urban life. The M.J. requires 30 credits to be completed over the course of one year in a cohort experience. The program begins with an intensive three-week “boot camp” preparatory course offered during the Early Term in August; continues with two 12-credit terms of coursework in the Fall and Spring; and culminates in a capstone project during the Summer I academic term. In addition to the “boot camp” class and the capstone project, coursework is required on journalistic principles, editing, and law and ethics, plus two terms of intensive reporting work in an Urban Reporting Lab. The Reporting Lab allows students to work both individually and collaboratively in order to do in-depth reporting on specific urban issues.

**Time Limit for Degree Completion:** 4 years

**Campus Location:** Online

**Full-Time/Part-Time Status:** The degree program is expected to be completed on a full-time basis.

**Study Abroad:** M.J. students may participate in the London program offered by the Lew Klein College of Media and Communication in the Summer and Fall terms.

**Ranking:** Temple University's Master of Journalism program is the only one of its kind in the state and one of just a handful of programs in the United States. The program is proud that it provides professional training within a University liberal arts context appropriate for individuals who seek to be leaders in their field.

**Areas of Specialization:** Coursework is offered in communication history; law and ethics; magazine writing; news and magazine management; and news reporting for print, broadcast, and online distribution. Specialized classes are also offered in computer-assisted reporting, documentary photography, electronic information gathering, sports writing, Web design, and other areas.

**Job Prospects:** The program is dedicated to training professional practitioners in mass media, newspaper and broadcast reporters, magazine writers, and professionals in emerging fields such as Web design and the Internet. The program also emphasizes critical thinking, development of specialized knowledge bases, ethical concerns, and historical context.

**Non-Matriculated Student Policy:** Non-matriculated students may apply up to 4 credits to the program requirements with the permission of the Master of Journalism Program Director and/or the Master of Journalism Committee.

**Financing Opportunities:** The program offers limited Teaching and Research Assistantships, which are competitively awarded based on GRE scores, among other things. Applications for assistantships should be made at the time of application for admission and should include a statement of experience, areas of interest, and future goals; transcripts; and a curriculum vitae. Assistantships carry a stipend and full tuition remission for up to 9 credits each academic term.

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### Admission Requirements and Deadlines

**Application Deadline:**

- **Fall:** March 1
- **Spring:** November 1

All application materials must be received by the appropriate deadline to be eligible for assistantships and scholarships. Any application completed after a deadline may be considered for the next term of admission.

**APPLY ONLINE to this graduate program.**

**Letters of Reference:**

- **Number Required:** 2

- **From Whom:** Letters of recommendation should be obtained from college/university faculty members familiar with the applicant's academic competence.

**Coursework Required for Admission Consideration:** No specific courses are required for admission, but a professional background is highly recommended.

**Bachelor's Degree in Discipline/Related Discipline:** All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

**Statement of Goals:** Approximately 500 to 1,000 words include your interest in Temple's program; your research goals; your focus in the program; and your talents and achievements.

**Standardized Test Scores:**

- **GRE:** Required. Scores in the 65-75% range on the verbal and quantitative sections are expected.
- **TOEFL:** 105 iBT or 620 PBT minimum

**Resume:** Current resume required.

**Writing Sample:** Professional, published articles or papers are preferred as a writing sample.

**Transfer Credit:** Graduate credits from an accredited institution may be transferred into the M.J. program but must be a "B" or better in order to transfer. The maximum number of credits a student may transfer is 7.

### Program Requirements

**General Program Requirements:**

- **Number of Credits Required Beyond the Baccalaureate:** 30

**Required Courses:**

<table>
<thead>
<tr>
<th>Year 1</th>
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<tbody>
<tr>
<td><strong>Summer II</strong></td>
</tr>
<tr>
<td>JRN 5301 Introduction to Urban Journalism 3</td>
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<tr>
<td><strong>Term Credit Hours</strong> 3</td>
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<tr>
<td><strong>Fall</strong></td>
</tr>
<tr>
<td>JRN 5302 Urban Reporting Lab 1 6</td>
</tr>
<tr>
<td>JRN 5303 Journalism Concepts 3</td>
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<td>JRN 5304 Editing the News 3</td>
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<td><strong>Term Credit Hours</strong> 12</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
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</tbody>
</table>
About the Program

The Ph.D. in Media and Communication offers a comprehensive curriculum in communication theory and research designed to provide advanced students with the breadth and depth of knowledge needed to make significant contributions in the academic and professional field of mediated communication and, generally, communication.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: Although the degree program can be completed on a full- or part-time basis, the Media and Communication doctoral program requires that students be “in residence” (registered for at least 9 credits) for two consecutive terms (excluding Summer sessions) in their first year of study.

Interdisciplinary Study: The Media and Communication Ph.D. program encourages interdisciplinary coursework, research, and interactions among faculty and students with interests in business, political science, psychology, sociology, and other fields. Students also may complete a limited amount of production coursework in audio, video, film, and/or journalism.

Study Abroad: Media and Communication doctoral students can take advantage of Temple’s London program, which offers a unique opportunity to study British media. Other international study opportunities include programs in Rome and Japan.

Areas of Specialization: Faculty members specialize and offer substantial coursework in diverse areas related to communication, including communication history, gender studies, international communication, media institutions, new media, political communication, psychological processing of media, and social change.

Job Prospects: The Media and Communication Ph.D. program is designed to prepare graduates for work as professors in colleges and universities around the world. Graduates also hold a variety of positions in the communication and other commercial industries as well as in non-profit organizations.

Non-Matriculated Student Policy: Non-matriculated students are restricted to taking MMC 9001 Communication Theory I and MMC 9002 Researching Communication I. These courses may only be taken with the permission of the instructor. If the student is admitted to the program, these courses may be applied toward the degree.

Financial Opportunities: Teaching Assistantships carry a stipend and full tuition remission of up to 9 credits per term. The principal duties of a Teaching Assistant include aiding faculty members in classroom and laboratory instruction; preparing material for presentation and demonstration; conducting tutorials and discussion sections; and grading quizzes and exams. The program makes offers of assistantships on or before March 15. April 5 is the final date to accept or decline the offer.

Admission Requirements and Deadlines

Application Deadline:

Fall: December 15

All applications are evaluated together after the deadline date.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from evaluators, particularly college/university faculty, who can provide insight
into your abilities and talents, as well as comment on your aptitude for graduate study.

**Master's Degree in Discipline/Related Discipline:** A master's degree in Communication, Media Studies, or the Humanities or Social Sciences is required.

**Bachelor's Degree in Discipline/Related Discipline:** All applicants must present credentials that are the equivalent of the baccalaureate degree at Temple University.

**Statement of Goals:** Approximately 500 to 1,000 words should include your specific interest in Temple's program; your research goals; your future career goals; and your academic and research achievements.

**Standardized Test Scores:**

GRE: Required. Applicants should have attained a total GRE score in the range of 65% to 80% on the verbal and quantitative sections.

TOEFL: 96 iBT or 590 PBT minimum

**Resume:** Current resume required.

### Program Requirements

**General Program Requirements:**

**Number of Credits Required Beyond the Master's:** 48

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMC 8985</td>
<td>Teaching in Higher Education: Communications</td>
<td>3</td>
</tr>
<tr>
<td>MMC 9001</td>
<td>Communication Theory I</td>
<td>3</td>
</tr>
<tr>
<td>MMC 9002</td>
<td>Statistics I</td>
<td>3</td>
</tr>
<tr>
<td>MMC 9003</td>
<td>Doctoral Colloquium</td>
<td>1</td>
</tr>
<tr>
<td>MMC 9005</td>
<td>Colloquium II (two times)</td>
<td>2</td>
</tr>
<tr>
<td>MMC 9101</td>
<td>Communication Theory II</td>
<td>3</td>
</tr>
<tr>
<td>MMC 9102</td>
<td>Researching Communication II</td>
<td>3</td>
</tr>
<tr>
<td>MMC 9994</td>
<td>Preliminary Examination Preparation</td>
<td>3</td>
</tr>
<tr>
<td>MMC 9998</td>
<td>Pre-Dissertation Research</td>
<td>3</td>
</tr>
<tr>
<td>MMC 9999</td>
<td>Dissertation Research</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credit Hours:** 48

1. All students are required to take at least one advanced research methods course in Media and Communication. Beyond the first course, these advanced courses can be taken as electives. Students are encouraged to take additional advanced courses under the guidance of their program advisor.

2. Elective credits may be taken in the Lew Klein College of Media and Communication, with up to 6 credits of electives taken within other schools and colleges at Temple University.

3. The six credits must include at least two credits of MMC 9999, which requires an approved dissertation proposal.

**Culminating Events:**

**Preliminary Examinations:**

Under the direction of an approved faculty committee, the Ph.D. student must satisfactorily complete written and oral examinations prior to achieving formal Ph.D. candidacy. Areas of examination and the constituency of the committee are tailored to the individual student.

The subject areas are determined, in advance, by the student and her/his Doctoral Advisory Committee (DAC). The examinations consist of essay questions in three areas written by the members of the student's DAC. The exams are designed to demonstrate the student's critical and interpretive knowledge of specialized areas of media and communication. The exams evaluate the student's ability to apply specific research foci to related issues in the discipline.

The preliminary examinations should be taken no more than one term after the student completes the coursework component of the program. Students who are preparing to write their preliminary examinations should confirm a date and time with the chair of their DAC and register this information with the graduate secretary. The student and chair receive confirmation of the date, time, and, where applicable, room and proctor for the examinations. The examinations are defended orally approximately three weeks after they are written. They must be completed before the student defends her/his dissertation proposal.

The DAC evaluates the examinations. The student must answer every question in order to be evaluated. The evaluators look for breadth and depth of understanding of specific research areas; a critical application of that knowledge to specific media and communication issues; and an ability to write technical prose in a manner consistent with media and communication research. Each committee member votes to pass or fail the student. In order to pass, a majority of the committee members must agree that the exams have been satisfactorily completed.

**Proposal:**

With the guidance of her/his academic advisor, who is a member of the Media and Communication faculty, and at least two other committee members, the student proposes, conducts, and creates a written report of an original, theoretically motivated research project. The proposal should consist of the context and background surrounding a particular research problem; identification of the theoretical and, if relevant, practical importance of the problem; an exhaustive survey and review of literature related to the problem; and a detailed methodological plan for investigating the problem. The proposal should be completed and approved no more than one term after the student completes coursework. It cannot be defended before the preliminary examinations are taken. Upon approval, a timeline for completing the investigation and writing process is established.

**Dissertation:**

The doctoral dissertation is an original empirical study that makes a significant contribution to the field of media and communication. It should expand the existing knowledge and demonstrate the student's knowledge of both research methods and her/his primary area of interest. Dissertations should be rigorously investigated; uphold the ethics and standards of the communication field; demonstrate an understanding of the relationship between the primary area of interest and the broader field of media and communication; and be prepared for publication in a professional journal.

The DAC oversees the student's dissertation research and is comprised of at least three graduate faculty members. Two members, including the chair, must be from the Media and Communication program. Committee compositions must be approved by the Media and Communication faculty. The chair is responsible for overseeing and guiding the student's work.
progress, coordinating the responses of the DAC members, and informing the student of her/his academic progress.

The Dissertation Examining Committee (DEC) evaluates the student's dissertation and oral defense. This committee is composed of the DAC and at least one additional graduate faculty member from outside the Media and Communication Program. The outside examiner should be identified no later than the beginning of the term in which the student will defend the dissertation. The DEC evaluates the student's ability to express verbally her/his research question, methodological approach, primary findings, and implications. DEC members vote to pass or fail the dissertation and the defense at the conclusion of the public presentation.

If a student needs to change a member of a committee, the new member must be approved by the program's faculty and registered with the graduate secretary and the Graduate School.

Students who are preparing to defend their dissertation should confirm a date and time with their DEC members and register with the graduate secretary at least 15 days before the defense. The graduate secretary arranges the date, time, and room within two working days and forwards to the student the appropriate forms. After the graduate secretary has made the appropriate arrangements for the defense, the student must send a completed "Announcement of Dissertation Defense" form, found in TUportal under the Tools tab within "University Forms," to the Graduate School at least 10 days before the defense. The Media and Communication program announces the defense via e-mail.

Contacts
Program Web Address: https://klein.temple.edu/communication-and-public-relations/media-and-communication-doctoral-program

Department Information:
Lew Klein College of Media and Communication Graduate Office
344 Annenberg Hall
2020 N. 13th Street
Philadelphia, PA 19122-6080
nmckenna@temple.edu
215-204-1497

Submission Address for Application Materials:
https://apply.temple.edu/Klein/

Department Contacts:
Admissions:
Nicole McKenna
nmckenna@temple.edu
215-204-1497

Program Coordinator:
Fabienne Darling-Wolf
fdarling@temple.edu
215-204-2077

Media Studies and Production, M.A.

LEW KLEIN COLLEGE OF MEDIA AND COMMUNICATION (https://klein.temple.edu)

About the Program
The master's program in Media Studies and Production provides graduate students with both scholarly and professional training. Many students concentrate wholly on the department's scholarly curriculum as excellent preparation for doctoral training. Others desire professional media training. This may involve preparation for a number of career options, including corporate communication, marketing and research, mass media and new media production, media management, and media publicity and advertising.

Time Limit for Degree Completion: 5 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: Departmental courses must constitute a minimum of 19 of the 36 credits required to graduate. Provided this requirement is met, students are free to take courses in other departments and pursue an interdisciplinary focus.

Affiliation(s): Department faculty members and students regularly present research at established communications associations, such as the Association for Education in Journalism and Mass Communication (AEJMC), Association of Internet Researchers (AoIR), Broadcast Education Association (BEA), Eastern Communication Association (ECA), International Communication Association (ICA), and National Communication Association (NCA).

Study Abroad: Students can register for the Summer program at Temple London.

Areas of Specialization: The program offers two concentrations:

1. Communication Scholarship, which covers the history, economics, law, regulation, and policy pertaining to broadcast, cable, and new technology industries in both national and international contexts; social processes such as the psychology, sociology, cultural study, and politics of both media and communications technology, particularly in terms of their impact on everyday life; and the analysis of the behavior and management of communications systems, particularly in terms of the media and telecommunication industries and institutions.

2. Media Production and Business, which covers TV, radio, computer, and multimedia production; corporate communications; media management, marketing, and research; and media publicity and advertising.

Job Prospects: Graduates find positions in academia, private media, and nonprofit or government/public service.

Non-Matriculated Student Policy: Non-matriculated students are encouraged to begin with introductory and required courses. If accepted to the program, those courses may be applied toward the degree program, provided grade requirements have been met. Consistent with
Graduate School regulations, students are permitted to take up to 9 credits before deciding whether to apply formally to the program.

Financial Opportunities: Funding is currently unavailable.

Admission Requirements and Deadlines

Application Deadline:

**Fall:** February 15

Applications are processed through the deadline.

**APPLY ONLINE to this graduate program.**

Letters of Reference:

**Number Required:** 2

From Whom: Letters of recommendation should be obtained from college/university faculty, professional supervisors, or others familiar with the applicant's academic or professional competence. At least one letter should be from an academic reference.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree in Communication, Media Studies, or the Humanities or Social Sciences is required.

Statement of Goals: In approximately 1,000 words, explain:

- How the M.A. in Media Studies and Production will advance your research goals, career goals, and intellectual objectives; and
- Your interests, experiences, and academic or research achievements that you will bring to the program.

This statement will be used to assess your institutional fit, i.e., how you will benefit from our program and what you will contribute to our learning community. Toward this end, please review the descriptions of our program, curriculum, and faculty, and incorporate this content into your statement. The strongest statement will integrate your answers to the above prompts into a coherent essay.

Standardized Test Scores:

GRE: Optional. Scores that are submitted are preferred to be at least 60% verbal and at least 25% quantitative. A writing score of at least 3.5 is recommended.

TOEFL: 100 iBT or 600 PBT minimum

Resume: Current professional resume or CV required.

Writing Sample/Production Portfolio: If you elect to not submit GRE scores, you are required to submit one of the options below so that your readiness and ability/potential to engage rigorously with graduate-level work can be assessed:

1. A formal academic paper from your undergraduate work that represents your best academic writing. Please include a cover sheet on which you indicate:
   a. your name,
   b. the institution where you took the course for which the paper was produced,
   c. the course number and title of the course for which the paper was written,
   d. the professor for whom you wrote the paper, and
   e. the term in which you took the course.

2. Professional writing samples that you produced in a professional capacity, such as published news articles or press releases. Please include a cover sheet indicating in what publication and on what date the material was published.

3. A production portfolio that includes professionally or academically produced video, audio, or web material. Please indicate your role in the production, where the material was produced, and the date.

Transfer Credit: Up to 8 credits of graduate coursework may be transferred into the master’s program, subject to the approval of the department's Graduate Faculty. To request the transfer of credits, a student must complete and submit a “Request for Transfer of Graduate Credit” form, found in TUportal under the Tools tab within “University Forms,” to the Lew Klein College of Media and Communication’s Graduate Office during the first term of matriculation so that her/his future curriculum can be properly planned. Additional details on credit transfer are available in the M.A. manual. The maximum number of credits a student may transfer is 8.

Program Requirements

General Program Requirements:

**Number of Credits Required Beyond the Baccalaureate:** 36

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSP 5011</td>
<td>Introduction to Communication Concepts</td>
<td>3</td>
</tr>
<tr>
<td>MSP 5114</td>
<td>Communication Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>MSP 9845</td>
<td>Masters Colloquium</td>
<td>1</td>
</tr>
<tr>
<td>Select at least one of the following:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSP 5021</td>
<td>Media Institutions</td>
<td></td>
</tr>
<tr>
<td>MSP 5042</td>
<td>Media Technology and Culture</td>
<td></td>
</tr>
</tbody>
</table>

Courses in Area of Concentration:

Total Credit Hours: 20

Culminating Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSP 9333</td>
<td>Master Colloq/Comp Exam or MSP 999MA Thesis/Project</td>
<td>6</td>
</tr>
</tbody>
</table>

Total Credit Hours: 36

When required courses have been completed, students may pursue a concentration in Communication Scholarship or Media Production and Business.

It is recommended that students adhere to the following timeline for degree completion:

**Year 1**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSP 5011</td>
<td>Introduction to Communication Concepts</td>
</tr>
<tr>
<td>MSP 5114</td>
<td>Communication Research Methods</td>
</tr>
<tr>
<td>MSP 9845</td>
<td>Masters Colloquium</td>
</tr>
<tr>
<td>Term Credit Hours</td>
<td>7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select one of the following:</td>
<td></td>
</tr>
<tr>
<td>MSP 5021</td>
<td>Media Institutions</td>
</tr>
<tr>
<td>MSP 5042</td>
<td>Media Technology and Culture</td>
</tr>
</tbody>
</table>
Select two courses in area of concentration  7

Term Credit Hours  10

Year 2
Fall
Select three courses in area of concentration  10

Term Credit Hours  10

Spring
Select one of the following:  6
- MSP 9333 Master Colloq/Comp Exam
- MSP 9996 MA Thesis/Project

Select one course in area of concentration  3

Term Credit Hours  9

Total Credit Hours:  36

Culminating Events:
Master's Thesis or Project:
Students can elect to complete a thesis or master's project.

Comprehensive Examinations:
Upon completion of all or most coursework and all other requirements, the student who elects not to complete a thesis or master's project must take comprehensive examinations. The comprehensive examinations are a set of written tests on several subjects, that may, if necessary, be followed by oral discussions. As the student nears coursework completion, s/he should discuss with the advisor the constitution of the Comprehensive Examination Committee and the topics of the examinations. During this period, the student is also advised to check with prospective faculty members concerning their willingness and ability to serve as members on the committee. This should be done sometime during the student's third term of study. The comprehensive exams are taken during the final term of study.

The examinations cover the discipline of media and communication, not the precise coursework taken by a given student. The student is examined in three areas that s/he determines in conjunction with her/his committee. Each area is represented by the question(s) of one committee member. The questioner in each examination area may be understood to be the lead or main reader for that area. The three areas are chosen Communication Behavior, Communication History, Communication Institutions, Communication Message Systems, Communication Research Methodology, Communication Theory, and an optional area.

The form of the examinations is determined by the student and the Comprehensive Examination Committee. Each of the three examinations can be taken either in office or at home, either with or without the use of notes and/or books, and for a period of a few hours to a week. In all cases, the written portion of the examination must be completed within a 14-day period. In-office examinations may not exceed four hours.

The student must answer every question on the examination in order to be evaluated. Evaluators look for an understanding of core concepts, application of relevant materials, informed responses, and careful writing. Additional standards may be applied by individual faculty members. All members of the Comprehensive Examination Committee evaluate each answer and convey their assessments to the committee chair within three weeks of receiving the examinations. First, each content area is graded on a pass/fail basis. To pass in a given area, the majority of committee members (i.e., no fewer than two) must accept the answer(s). Included in this majority approval must be that of the area examiner (i.e., the lead reader). Second, to pass the comprehensive examinations, the Comprehensive Examination Committee must also determine that the overall written (and oral, if required) performance across all questions and areas is adequate. Thus, it is possible that a student may discharge each area just passably but have such a weak overall performance that s/he fails the comprehensive examinations.

The examinations are scheduled by the student and her/his committee members. The student must complete all of the examinations within the 90 days following the approval of the student's Comprehensive Examination Committee; if 90 days elapse from the approval-of-committee date without completion, the process must be started again from the beginning. Examinations may be scheduled any time during the regular academic term, either Fall or Spring.

Contacts
Program Web Address:
https://klein.temple.edu/academics/graduate-programs/master-arts-media-studies-and-production

Department Information:
M.A. in Media Studies and Production
344 Annenberg Hall
2020 N. 13th Street
Philadelphia, PA 19122-6080
kaitlin.pierce@temple.edu
215-204-8560

Submission Address for Application Materials:
https://apply.temple.edu/Klein/

Department Contacts:
Admissions:
Kaitlin Pierce
kaitlin.pierce@temple.edu
215-204-8560

Graduate Chairperson:
Clemencia Rodriguez
clemencia@temple.edu
215-204-5752

Chairperson:
Jan Fernback
fernback@temple.edu
215-204-3041

Graduate Certificate: Conflict Management and Dispute Resolution
LEW KLEIN COLLEGE OF MEDIA AND COMMUNICATION (https://klein.temple.edu)

About the Certificate
The graduate certificate in Conflict Management and Dispute Resolution is designed for those interested in developing their skills to manage organizational demands for crisis management and resolution of
employee disputes. The online format offers students flexibility in accessing resources, submitting assignments, and communicating online to accommodate demanding job constraints and challenging personal responsibilities.

**Time Limit for Degree Completion:** 2 years

**Campus Location:** Online

**Full-Time/Part-Time Status:** The graduate certificate can be completed on a part-time basis. All courses are offered for seven weeks in synchronous or asynchronous formats, can be taken in any order, and have no prerequisites.

**Non-Matriculated Student Policy:** Non-matriculated students may take up to 9 credits before submitting an application.

### Admission Requirements and Deadlines

**Bachelor's Degree in Discipline/Related Discipline:** All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

### Certificate Requirements

**Number of Credits Required to Complete the Certificate:** 12

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMGT 5001</td>
<td>Communicating Organizational Leadership</td>
<td>3</td>
</tr>
<tr>
<td>CMGT 5002</td>
<td>Leadership in Crises and Conflict Management</td>
<td>3</td>
</tr>
<tr>
<td>CMGT 5101</td>
<td>Conflict Management Processes in the Workplace</td>
<td>3</td>
</tr>
<tr>
<td>CMGT 5102</td>
<td>Designing Workplace Dispute Systems</td>
<td>3</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td></td>
<td>12</td>
</tr>
</tbody>
</table>

### Contacts

**Certificate Program Address:** https://klein.temple.edu/communication/master-science-communication-management/conflict-management-and-dispute-resolution-certificate

**Department Information:**

Lew Klein College of Media and Communication
Office of Research and Graduate Studies
2020 N. 13th Street, 344 Annenberg Hall
Philadelphia, PA 19122-6015
nmckenna@temple.edu
215-204-1497

**Mailing Address for Application Materials:**

Lew Klein College of Media and Communication
344 Annenberg Hall (011-00)
2020 N. 13th Street
Philadelphia, PA 19122-6015

**Department Contacts:**

Admissions:
Kaitlin Pierce
kaitlin.pierce@temple.edu
Mailing Address for Application Materials:
Lew Klein College of Media and Communication
344 Annenberg Hall (011-00)
2020 N. 13th Street
Philadelphia, PA 19122-6015

Department Contacts:
Admissions:
Kaitlin Pierce
kaitlin.pierce@temple.edu
215-204-8560
Lewis Katz School of Medicine

Lewis Katz School of Medicine (LKSOM) at Temple University, located on the Health Sciences Center campus, is dedicated to excellence in education, research, and patient care achieved by faculty, staff, and students who represent the diversity of society. LKSOM takes pride in the excellence of its teaching, research, and service programs by:

• providing education that is patient-centered, instilling in learners the school’s ethic of human service and lifelong learning;
• engaging in research that advances and integrates basic and clinical science; and
• administering patient care with compassion and understanding, utilizing contemporary knowledge and techniques.

Located in the historic city of Philadelphia where American medicine has its roots, LKSOM has been known for its faculty’s uncommon interest in and concern for students and its commitment to the highest quality of care for all people. On November 1, 2007, the Medical School broke ground on a new home. At a cost of $160 million, the Medical Education and Research Building is the largest capital improvement project in the history of Temple University. The 11-story, 480,000-square-foot glass and brick structure opened in May 2009 and has proven to be a highly functional site for both education and research.

Russell H. Conwell, founder of Temple University, established a medical school, lit by gaslight, for the “common man” with its opening on September 16, 1901. The faculty consisted of 27 lecturers, demonstrators, and instructors. Medical practitioners taught classes at College Hall, next to the Baptist Temple, on present-day Main Campus. Samaritan Hospital, two miles up Broad Street, was the site of clinical instruction. Anatomical dissections on cadavers, which were delivered in pickle barrels, were performed in a hayloft. According to admissions materials, “matriculates of academic or scientific colleges, or graduates of reputable high schools of the first grade, or a normal school established by State authority, of both sexes, are admitted to the first year class without examination.” In the inaugural class, 31 students began the five-year program that included:

• classes held on nights and weekends to accommodate students’ day jobs;
• fifteen required textbooks;
• total tuition and fees of a modest $635; and
• a curriculum requiring 700 hours of work each year.

From such modest beginnings, the School of Medicine has emerged as a school of national reputation. One in every four people who applies to medical school in the United States applies to Temple. Nationally ranked by U.S. News & World Report, the Lewis Katz School of Medicine at Temple University prepares students for a rewarding career in medical practice or research. The combined energy created by our enthusiastic faculty, state-of-the-art technology, and soaring new facilities makes Temple one of the most exciting places to study medicine today.

Programs

Degree Programs

• Biomedical Sciences, M.S. (p. 628)
• Biomedical Sciences, Ph.D. (p. 630)
• Physician Assistant, M.M.S. (p. 632)
• Urban Bioethics, M.A. (p. 635)

Certificate

• Urban Bioethics

Graduate Faculty

Mary E. Abood, Professor, Department of Center for Substance Abuse Research, Lewis Katz School of Medicine; Ph.D., University of California San Francisco.

Raghbir S. Athwal, Professor, Department of Fels Institute for Cancer Research, Lewis Katz School of Medicine; Ph.D., University of Missouri.

Michael V. Autieri, Professor, Department of Cardiovascular Research Center, Lewis Katz School of Medicine; Ph.D., Hahnemann University.

S. Ausim Azizi, Professor (Clinician Scholar), Department of Neurology, Lewis Katz School of Medicine; M.D., Southwestern Medical School.

Mary F. Barbe, Professor, Department of Anatomy and Cell Biology, Lewis Katz School of Medicine; Ph.D., Wake Forest University.

Richard H. G. Baxter, Assistant Professor, Department of Medical Genetics and Molecular Biochemistry, Lewis Katz School of Medicine; Ph.D., University of Chicago.

Mark M. Black, Professor, Department of Anatomy and Cell Biology, Lewis Katz School of Medicine; Ph.D., Case Western Reserve University.

Tricia Helen Burdo, Associate Professor, Department of Neuroscience, Lewis Katz School of Medicine; Ph.D., Penn State College of Medicine.

Bettina A. Buttaro, Associate Professor, Department of Microbiology and Immunology, Lewis Katz School of Medicine; Ph.D., University of Minnesota.

Roberto Caricchio, Associate Professor (Research), Department of Microbiology and Immunology, Lewis Katz School of Medicine; M.D., Catholic University of Sacred Heart.

Marion M. Chan, Associate Professor, Department of Microbiology and Immunology, Lewis Katz School of Medicine; Ph.D., Cornell University Medical College.

Xiongwen Chen, Assistant Professor, Department of Cardiovascular Research Center, Lewis Katz School of Medicine; Ph.D., Temple University.

Joseph Y. Cheung, Professor, Department of Medicine, Lewis Katz School of Medicine; M.D., Duke University.

Parkson Lee-Gau Chong, Professor, Department of Medical Genetics and Molecular Biochemistry, Lewis Katz School of Medicine; Ph.D., University of Illinois at Urbana-Champaign.

Philip L. Cohen, Professor, Department of Microbiology and Immunology, Lewis Katz School of Medicine; M.D., Yale University.

Judith Daniels, Associate Professor, Department of Anatomy and Cell Biology, Lewis Katz School of Medicine; Ph.D., University of North Carolina at Chapel Hill.

Konstantinos Drosatos, Assistant Professor, Department of Pharmacology, Lewis Katz School of Medicine; Ph.D., Boston University.
Nahum J. Duker, Professor, Department of Pathology and Laboratory Medicine, Lewis Katz School of Medicine; M.D., University of Illinois College of Medicine.

Satoru Eguchi, Professor, Department of Cardiovascular Research Center, Lewis Katz School of Medicine; M.D., Tohoku University School of Medicine.

Toby K. Eisenstein, Professor, Department of Center for Substance Abuse Research, Lewis Katz School of Medicine; Ph.D., Bryn Mawr College.

John W. Elrod, Assistant Professor, Department of Center for Translational Medicine, Lewis Katz School of Medicine; Ph.D., Albert Einstein College of Medicine.

Nora Engel, Associate Professor, Department of Fels Institute for Cancer Research, Lewis Katz School of Medicine; Ph.D., University of Buenos Aires.

Arthur M. Feldman, Professor, Department of Physiology, Lewis Katz School of Medicine; M.D., Louisiana State University.

Tracy Lee Fischer-Smith, Assistant Professor, Department of Neuroscience, Lewis Katz School of Medicine; Ph.D., Temple University.

Gianluca Gallo, Associate Professor, Department of Shriners Hospitals Pediatric Research Center, Lewis Katz School of Medicine; Ph.D., University of Illinois.

Stefania Gallucci, Associate Professor, Department of Microbiology and Immunology, Lewis Katz School of Medicine; M.D., Università Cattolica del Sacro Cuore.

Ana M. Gamero, Assistant Professor, Department of Medical Genetics and Molecular Biochemistry, Lewis Katz School of Medicine; Ph.D., University of South Florida.

Glenn Stephen Gerhard, Professor, Department of Medical Genetics and Molecular Biochemistry, Lewis Katz School of Medicine; M.D., The Pennsylvania State University.

Kathleen M. Giangiacomo, Associate Professor, Department of Medical Genetics and Molecular Biochemistry, Lewis Katz School of Medicine; Ph.D., University of Pennsylvania.

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Wen-Zhe Ho, Professor, Department of Pathology and Laboratory Medicine, Lewis Katz School of Medicine; M.D., Wuhan University School of Medicine.

Barbara Hoffman, Professor, Department of Fels Institute for Cancer Research, Lewis Katz School of Medicine; Ph.D., University of Michigan.

Steven R. Houser, Professor, Department of Cardiovascular Research Center, Lewis Katz School of Medicine; Ph.D., Temple University.

Wenhui Hu, Associate Professor, Department of Pathology and Laboratory Medicine, Lewis Katz School of Medicine; Ph.D., Peking Union Medical College and Chinese Academy of Medical Science.

Yang Hu, Assistant Professor, Department of Shriners Hospitals Pediatric Research Center, Lewis Katz School of Medicine; M.D., Beijing Medical University.

Jian Huang, Assistant Professor, Department of Pathology and Laboratory Medicine, Lewis Katz School of Medicine; M.D., Peking University Health Sciences Center.

Jean-Pierre Issa, Professor, Department of Fels Institute for Cancer Research, Lewis Katz School of Medicine; M.D., The American University of Beirut.

Liselotte E. Jensen, Assistant Professor, Department of Microbiology and Immunology, Lewis Katz School of Medicine; Ph.D., University of Aarhus.

Nora L. Jones, Assistant Professor (Research Center), Department of Center for Bioethics, Urban Health and Policy, Lewis Katz School of Medicine; Ph.D., Temple University.

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Kamel Khalili, Professor, Department of Neuroscience, Lewis Katz School of Medicine; Ph.D., University of Pennsylvania School of Medicine.

Mohsin Khan, Assistant Professor, Department of Physiology, Lewis Katz School of Medicine; Ph.D., University of the Punjab.

Laurie Kilpatrick, Associate Professor, Department of Center for Inflammation, Translational and Clinical Lung Research, Lewis Katz School of Medicine; Ph.D., University of Pennsylvania.

Seonhee Kim, Assistant Professor, Department of Shriners Hospitals Pediatric Research Center, Lewis Katz School of Medicine; Ph.D., Rutgers University.

Lynn Kirby, Associate Professor, Department of Center for Substance Abuse Research, Lewis Katz School of Medicine; Ph.D., University of Pennsylvania.

Raj Kshore, Professor, Department of Pharmacology, Lewis Katz School of Medicine; Ph.D., Lucknow University.

Walter J. Koch, Professor, Department of Center for Translational Medicine, Lewis Katz School of Medicine; Ph.D., University of Cincinnati College of Medicine.

Beata Kosmider, Associate Professor, Department of Physiology, Lewis Katz School of Medicine; Ph.D., University of Lodz.

Barbara Krynska, Assistant Professor (Research), Department of Shriners Hospitals Pediatric Research Center, Lewis Katz School of Medicine; Ph.D., Medical University of Silesia.
Satya P. Kunapuli, Professor, Department of Physiology, Lewis Katz School of Medicine; Ph.D., Indian Institute of Science.

T. Dianne Langford, Associate Professor, Department of Neuroscience, Lewis Katz School of Medicine; Ph.D., University of Alabama.

Shuxin Li, Assistant Professor, Department of Anatomy and Cell Biology, Lewis Katz School of Medicine; M.D., Henan Medical University.

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John S. Martin, Associate Professor, Department of Physiology, Lewis Katz School of Medicine; Ph.D., Thomas Jefferson University.

Sadia Mohsin, Assistant Professor, Department of Physiology, Lewis Katz School of Medicine; Ph.D., University of the Punjab.

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Steven N. Popoff, Professor, Department of Anatomy and Cell Biology, Lewis Katz School of Medicine; Ph.D., Loyola University.

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Tomasz Skorski, Professor, Department of Microbiology and Immunology, Lewis Katz School of Medicine; M.D., Medical Academy of Warsaw.

George Smith, Professor, Department of Shriners Hospitals Pediatric Research Center, Lewis Katz School of Medicine; Ph.D., Case Western Reserve University.
Jonathan Soboloff, Associate Professor, Department of Medical Genetics and Molecular Biochemistry, Lewis Katz School of Medicine; Ph.D., University of Ottawa.

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Biomedical Sciences, M.S.

LEWIS KATZ SCHOOL OF MEDICINE (http://www.temple.edu/medicine)

About the Program

The M.S. program is aimed at broad interdisciplinary training in the major areas of Biomedical Sciences. The goal is to train students in the theory and practice of Biomedical Sciences for eventual service in research and teaching. Students are instructed in diverse laboratory techniques through a series of lecture and laboratory courses, and provided with a program of experimental research for thesis students under the guidance of a faculty member. Two options are available:

• Thesis Track, with a transcripted concentration in the area of thesis research. Five areas of concentration or clusters are available: Cancer Biology and Genetics, Infectious Disease and Immunity, Molecular and Cellular Biosciences, Neuroscience, and Organ Systems and Translational Medicine. Students complete and defend a master's thesis under the supervision of a faculty member.

• Non-Thesis Track, which is in General Biomedical Sciences. Students complete didactic coursework in each of the five cluster areas.

Time Limit for Degree Completion: 3 years

Campus Location: Health Sciences. With the permission of the student's Advisory Committee, elective courses not offered on the Health Sciences Campus may be taken at other campuses.

Full-Time/Part-Time Status: The M.S. degree program is designed as a full-time program of study to be completed in 20 to 24 months.

Interdisciplinary Study: The graduate program in Biomedical Sciences is interdisciplinary and emphasizes translational research. Students have the opportunity to work with faculty in disease-based research centers in the Lewis Katz School of Medicine, including the Center for Inflammation, Translational and Clinical Lung Research; Center for Metabolic Disease Research; Center for Neurovirology; Center for Substance Abuse Research; Center for Translational Research; Comprehensive NeuroAIDS Center; Fels Institute for Cancer Research and Molecular Biology; Independence Blue Cross Cardiovascular
Research Center; Shriners Hospitals Pediatric Research Center; Sol Sherry Thrombosis Research Center; and Temple Autoimmunity Center.

**Ranking:** The 2014 *U.S. News and World Report* ranked Temple University's School of Medicine number 54 in Research and among the Best Medical Schools.

**Areas of Specialization:** This interdisciplinary Biomedical Sciences graduate program offers five areas of concentration for students who plan to earn the M.S. with a thesis:

- Cancer Biology and Genetics
- Infectious Disease and Immunity
- Molecular and Cellular Biosciences
- Neuroscience
- Organ Systems and Translational Medicine

**Job Prospects:** This well-balanced program has been designed to be individually tailored to meet the interests and needs of each student and to fully prepare each student for a Biomedical Sciences career in academia, industry, and government. The graduate program is designed to provide training in the theory and practice of Biomedical Sciences for eventual placement in research and teaching positions.

**Non-Matriculated Student Policy:** Non-matriculated students may enroll in some courses with permission from the course instructor and approval from the Office of Graduate Studies at the Lewis Katz School of Medicine.

**Financing Opportunities:** Limited financial support is available for M.S. students.

**Admission Requirements and Deadlines**

**Pre-Application Deadline for International Applicants Only:**

All international applicants who have not earned a degree in the United States or from an institution where English is the sole language of instruction are required to complete a Pre-Application for approval before applying. The Pre-Application is found on the Biomedical Sciences website at https://medicine.temple.edu/education/biomedical-sciences-graduate-program/admissions/pre-application-international-applicants and must be submitted electronically by October 31.

**Application Deadline:**

*Fall:* February 15

Applications are processed as they are received. Late applications may be considered for admission.

*APPLY ONLINE to this graduate program.*

**Letters of Reference:**

*Number Required:* 3

*From Whom:* Letters of recommendation should be obtained from faculty and supervisors of research experiences.

**Coursework Required for Admission Consideration:** Applicants should have undergraduate training in the life sciences such as Biology, Biochemistry, Cell Biology, or Molecular Biology and Genetics. Students are also expected to have training in Chemistry and Mathematics.

**Bachelor's Degree in Discipline/Related Discipline:** A baccalaureate degree in the Biological or Chemical Sciences is required.

**Statement of Goals:** Approximately 500 to 1,000 words include your interest in Temple's Biomedical Sciences graduate program; your research interests and past experiences; your future career goals; and your academic and research achievements.

**Standardized Test Scores:**

- **GRE:** Required. Acceptance by Temple University requires submission of verbal, quantitative, and analytical GRE scores. GRE scores below the 50th percentile are outside the norm set by the Graduate School, and no individual score in the verbal, quantitative, or analytical sections should be below that level.

For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:

- TOEFL: 79 iBT or 550 PBT minimum
- IELTS: 6.5 minimum
- PTE Academic: 53 minimum

**Transfer Credit:** Graduate credits from an accredited institution may be transferred into the M.S. program in Biomedical Sciences. The credits must be equivalent to coursework offered at Temple, and the grades earned must be a "B" or better in order to transfer. The Academic Affairs Committee reviews the courses and makes the recommendation to accept the credits based on the student's knowledge of the course material and initial performance in the program. The maximum number of credits a student may transfer is 12.

**Test Waivers:** Upon review of the student's background by the Graduate Admissions Committee, applicants with high levels of performance in one or more areas can gain favorable consideration for an application that is otherwise outside the acceptance matrix.

**Program Requirements**

**General Program Requirements:**

**Number of Credits Required Beyond the Baccalaureate:** 30 Thesis Track or 36 Non-Thesis Track

**Required Courses:**

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<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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All students participate in a common first-year interdisciplinary experience that includes the following core courses:

- Molecules to Cells
- Organ Systems: Function, Dysfunction and Therapies
- Scientific Design and Biostatistics
- Scientific Communications
- Bioinformatics
- Scientific Integrity

Advanced elective courses are selected for one of the following tracks:

- **Thesis Track** (6 credits in the area of concentration)
- **Non-Thesis Track** (20 credits, with at least one course in each of the five areas of concentration)

Seminar/Specialized Journal Club
Culminating Events:

**Thesis:**
For the **Thesis Track**, the thesis must be based on an original research project. It should demonstrate the student's familiarity with laboratory techniques related to the research project and the ability to evaluate critically the literature in the student's chosen area. The student submits the thesis in complete form not less than 14 days prior to the date of the final examination. The thesis must have been read and approved by the thesis advisor prior to distribution. The student should confirm a time and date for the thesis defense with the Final Examination Committee.

The final examination consists of a defense of the student's thesis to demonstrate competence within the field of the thesis and closely related areas. The student's Advisory Committee votes to pass or fail the thesis and the defense at the conclusion of the presentation. If the student must make revisions, those changes must be approved as arranged by the Committee.

Note that the **Non-Thesis Track** has no culminating event. Students may elect to obtain research experience within a laboratory.

**About the Program**

The Ph.D. program is aimed at broad interdisciplinary and translational training in Biomedical Sciences and provides in-depth training in one of five areas of concentration. All students participate in an interdisciplinary first-year experience and then select an area of concentration from among Cancer Biology and Genetics, Infectious Disease and Immunity, Molecular and Cellular Biosciences, Neuroscience, and Organ Systems and Translational Medicine. The curriculum provides students with an interdisciplinary approach to research training, providing new pathways for learning and discovery. The Ph.D. program is intended to educate premier biomedical scientists who will be tomorrow's leaders in research, education, and government.

**Time Limit for Degree Completion:** 7 years

**Campus Location:** Health Sciences. With the permission of the student's Research Advisory Committee, elective courses not offered on the Health Sciences Campus may be taken at other campuses.

**Full-Time/Part-Time Status:** The Ph.D. degree program is designed as a full-time day program of study.

**Interdisciplinary Study:** The graduate program in Biomedical Sciences is interdisciplinary and emphasizes translational research. Students have the opportunity to work with faculty in disease-based research centers at the Lewis Katz School of Medicine, including the Center for Inflammation, Translational and Clinical Lung Research; Center for Metabolic Disease Research; Center for Neurovirology; Center for Substance Abuse Research; Center for Translational Research; Comprehensive NeuroAIDS Center; Fels Institute for Cancer Research and Molecular Biology; Independence Blue Cross Cardiovascular Research Center; Shriners Hospitals Pediatric Research Center; Sol Sherry Thrombosis Research Center; and Temple Autoimmunity Center.

**Ranking:** The 2014 *U.S. News and World Report* ranked Temple University's School of Medicine number 54 in Research and among the Best Medical Schools.

**Areas of Specialization:** This interdisciplinary Biomedical Sciences graduate program offers five areas of concentration for students who plan to earn the Ph.D.:

- Cancer Biology and Genetics
- Infectious Disease and Immunity
- Molecular and Cellular Biosciences
- Neuroscience
- Organ Systems and Translational Medicine

**Job Prospects:** This well-balanced program has been designed to be individually tailored to meet the interests and needs of each student and to fully prepare each student for a Biomedical Sciences career in academia, industry, and government. The graduate program is designed to provide training in the theory and practice of Biomedical Sciences for eventual placement in research and teaching positions.

**Non-Matriculated Student Policy:** Non-matriculated students may enroll in some courses with permission from the course instructor and approval from the Office of Graduate Studies at the Lewis Katz School of Medicine.

**Financing Opportunities:** All students are provided with a competitive stipend, health insurance, and tuition remission. First-year students are supported by Medical School fellowships. After the first year,
students receive financial support from extramural funds available to their research mentor, including training grants, research assistantships, and fellowships. Students are expected to work full-time toward the completion of the degree requirements. A satisfactory level of performance must be maintained at all times.

Exceptionally qualified students who apply to the program may be nominated for Presidential, University, and Future Faculty Fellowships. In order to be considered for nomination, prospective students must submit all application materials to the department by February 15.

Admission Requirements and Deadlines

Pre-Application Deadline for International Applicants Only:

All international applicants who have not earned a degree in the United States or from an institution where English is the sole language of instruction are required to complete a Pre-Application for approval before applying. The Pre-Application is found on the Biomedical Sciences website at https://medicine.temple.edu/education/biomedical-sciences-graduate-program/admissions/pre-application-international-applicants and must be submitted electronically by October 31.

Application Deadline:

Fall: February 15

Applications are processed as they are received.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from faculty and supervisors of research experiences.

Coursework Required for Admission Consideration: Applicants should have undergraduate training in the life sciences such as Biology, Biochemistry, Cell Biology, or Molecular Biology and Genetics. Students are also expected to have training in Chemistry and Mathematics.

Master's Degree in Discipline/Related Discipline: A master's degree is not required.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree in the Biological or Chemical Sciences is required.

Statement of Goals: Approximately 500 to 1,000 words include your interest in Temple's Biomedical Sciences graduate program; your research interests and past experiences; your future career goals; and your academic and research achievements.

Standardized Test Scores:
GRE: Required. Acceptance by Temple University requires submission of verbal, quantitative, and analytical GRE scores. GRE scores below the 50th percentile are outside the norm set by the Graduate School, and no individual score in the verbal, quantitative, or analytical sections should be below that level.

For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:

TOEFL: 79 iBT or 550 PBT minimum
IELTS: 6.5 minimum

PTE Academic: 53 minimum

Advanced Standing: Students who enter the Ph.D. program in Biomedical Sciences may be considered for advanced standing, based on the successful completion of graduate-level courses in the Biological Sciences or Chemistry. The credits must be equivalent to coursework offered at Temple, and the grades earned must be a “B” or better. The Graduate Admissions Committee makes the recommendation on a case-by-case basis as the application is reviewed. The maximum number of advanced standing credits awarded is 24.

Test Waivers: Upon review of the student's background by the Graduate Admissions Committee, applicants with high levels of performance in one or more areas can gain favorable consideration for an application that is otherwise outside the acceptance matrix.

Program Requirements

General Program Requirements:

Number of Didactic Credits Required Beyond the Baccalaureate: 37

Required Courses:

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<tr>
<th>Code</th>
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<td>Molecules to Cells</td>
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<td>Organ Systems: Function, Dysfunction and Therapies</td>
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<td>Scientific Design and Biostatistics</td>
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<td>Scientific Communications</td>
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<td>Scientific Integrity</td>
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<td>Scientific Grant Writing</td>
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<td>Advanced elective courses in area of concentration/cluster</td>
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<td>Cluster-Based Seminar/Specialized Journal Club</td>
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Additional Requirements:

Research Advisory Committee Meetings:
Students are required to meet with their Research Advisory Committee each term to evaluate their progress toward the degree.

Outside Research Proposal:
In the Spring term of the second year of study, students are required to prepare and defend an NIH-style grant proposal in their area of concentration on a topic that is distinct from the student's research. This is a requirement for elevation to candidacy.

Culminating Events:

Dissertation Proposal:
The dissertation proposal demonstrates the student's knowledge of and ability to conduct the proposed research. The proposal should describe the context and background surrounding a particular research problem and a methodological plan for investigating the problem. The proposal is a requirement for admission to candidacy and should be submitted and approved during the Fall term of the third year in the program.

Dissertation:
The Ph.D. degree in Biomedical Sciences is a research degree. Research training begins with three research rotations in the first year of the graduate program and continues with the selection of an area of concentration and a Dissertation Research Advisor, who is a member
of the Graduate Faculty from within the selected area of concentration. The areas of concentration include Cancer Biology and Genetics, Infectious Disease and Immunity, Molecular and Cellular Biosciences, Neuroscience, and Organ Systems and Translational Medicine.

Under the direction of the Dissertation Research Advisor, the student develops an original research project. Dissertation research involves meaningful, critical thinking and the execution of ideas in the laboratory through the use of the scientific method. Dissertation research conducted by the student should be an original contribution to scientific knowledge. The quality of the student's Ph.D. dissertation research should be equivalent to that found in reputable biomedical sciences journals.

Upon selection of an area of concentration and a Dissertation Research Advisor, a Research Advisory Committee is formed for each student. This Committee is responsible for the review of the student's research and academic progress twice yearly. It determines whether the content of the student's research is sufficient for the Ph.D. dissertation.

The student submits the dissertation in complete form not less than 14 days prior to the date of the final examination. The dissertation must have been read and approved by the Dissertation Research Advisor prior to distribution. After the student has arranged the time, date, and room for the dissertation defense, the "Announcement of Dissertation Defense" form, found in TUportal under the Tools tab within "University Forms," is completed and forwarded to the Graduate School on Main Campus and to the Office of Graduate Studies on the Health Sciences Campus at least 10 working days before the defense. Announcements of the defense are posted and emailed to all members of the cluster/area of concentration.

The Final Examination Committee evaluates the student's dissertation and demonstration of competence within the field of the dissertation and related areas. This Committee consists of five faculty members, including the Dissertation Research Advisor, Research Advisory Committee, and one additional faculty member from another cluster. The Committee evaluates the quality of the dissertation research and the student's ability to express, both in writing and orally, her/his research question, methodological approach, primary findings, and implications. The Committee votes to pass or fail the dissertation and the defense at the conclusion of the public presentation and private question/answer period.

Contacts

Program Web Address:
https://medicine.temple.edu/education/biomedical-sciences-graduate-program

Department Information:
Biomedical Sciences Graduate Program
Lewis Katz School of Medicine at Temple University
3500 N. Broad Street, MERB 1111
Philadelphia, PA 19140

Mailing Address for Application Materials:
Graduate Division
Lewis Katz School of Medicine at Temple University
3500 N. Broad Street, MERB 1111 (556-00)

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Admissions and Program Coordinators:
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Physician Assistant, M.M.S.
LEWIS KATZ SCHOOL OF MEDICINE (http://www.temple.edu/medicine)

About the Program
The Master of Medical Science (M.M.S.) program is designed to train outstanding Physician Assistants who enhance patient care in our North Philadelphia community and beyond. Graduates of the program will be recognized as leaders, educators, and innovators in the delivery of high-quality healthcare that is accessible, affordable, compassionate, and respectful of cultural diversity.

The Physician Assistant program facilitates delivery of an innovative curriculum for medical students that meets the accreditation standards for inter-professional education set by the Liaison Committee on Medical Education (LCME). The program is designed to prepare students to provide patient-centered care in practice settings under the supervision of and in collaboration with physicians and inter-professional teams. The curriculum satisfies all of the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) standards and provides instruction in all areas tested by the National Commission on Certification of Physician Assistants (NCCPA) licensing examination. The goals of the program are to:

- Admit highly qualified students representing diverse backgrounds.
- Prepare compassionate and highly trained physician assistants to become leaders in healthcare.
- Train physician assistants to develop and use an evidence-based approach in the delivery of the highest quality patient-centered healthcare.
- Develop the skills needed as effective lifelong learners.
- Cultivate collaborative patient care through integrated inter-professional training experiences.
- Foster high individual and professional ethical standards.
- Promote cultural awareness in the provision of care to a diverse society.

Time Limit for Degree Completion: 3 years

Campus Location: Health Sciences

Full-Time/Part-Time Status: The curriculum is designed to be completed in approximately 26 months. Students begin in early June of the first year and complete their studies 26 months later at the end of the 12-week summer session, around July 30, to receive an August diploma.
Interdisciplinary Study: The Physician Assistant program is part of inter-professional education at the Lewis Katz School of Medicine. Inter-professional education is a collaborative exercise that involves students from the School of Medicine as well as from Temple University’s College of Public Health, Maurice H. Kornberg School of Dentistry, School of Pharmacy, and School of Podiatric Medicine.

Ranking: The 2014 U.S. News and World Report ranked Temple University's School of Medicine number 54 in Research and among the Best Medical Schools.

Job Prospects: A critical need for Physician Assistants to work as part of a medical team providing access to quality healthcare has resulted from a looming critical shortage of physicians and an increase in the number of Americans covered through the Affordable Care Act (ACA) of 2010. Job prospects for graduates of the M.M.S. program are excellent.

Non-Matriculated Student Policy: Non-matriculated students may enroll in some courses with permission from the course instructor and approval from the Office of Graduate Studies at the Lewis Katz School of Medicine.

Financing Opportunities: Limited financial support is available for M.M.S. students.

Admission Requirements and Deadlines

Application Deadline:

**Summer I:** January 15

All applicants to the M.M.S. program must apply via the Centralized Application Service for Physician Assistants (CASPA). The system can be accessed at https://caspa.liaisoncas.com/. A supplemental application is also required to be submitted directly to Temple University at http://www.temple.edu/apply/common/appcheck.asp. Submission of the supplemental application generates the applicant’s TUid number. The CASPA application will not be considered without the assigned TUid.

All applications must be submitted, completed, and verified by CASPA no later than January 15. As this is a self-managed process, applicants are expected to monitor the status, including submission and receipt, of all application materials through the CASPA applicant portal. As CASPA processing may take up to six weeks, we strongly recommend that all application materials be received by CASPA by December 1.

Applications are processed throughout the year as they are received. Thus, it is in the applicant's best interest to apply early to this highly competitive degree program. Deadline extensions for incomplete applications are not available.

Letters of Reference:

**Number Required:** 3

**From Whom:** Letters of recommendation are to be submitted electronically at https://caspa.liaisoncas.com/. They should include one letter each from:

- a professor with whom the applicant has completed science coursework;
- a physician, physician assistant (preferred, but not required), or nurse practitioner; and
- an individual of the applicant’s choosing, but one who possesses a personal, supervisory knowledge of the applicant.

Coursework Required for Admission Consideration: Prerequisite coursework, with the required number of credits, includes:

- General Biology I and II (with lab): 8
- General Chemistry I and II (with lab): 8
- Organic Chemistry (with lab): 4
- Biochemistry: 3
- Human Anatomy*: 4
- Human Physiology*: 3
- Medical Terminology: 2
- Psychology: 3
- Statistics: 2
- Two or more of the following: Cell Biology, Genetics, Immunology, Microbiology, Molecular Biology: 6

* Combined Human Anatomy/Physiology may substitute with a total of 8 required credits.

All science and math prerequisite coursework must be completed within 10 years prior to June enrollment. All prerequisite coursework must be completed prior to enrollment with a grade of at least a “C” or 2.0 on a 4.0 scale.

To identify coursework that fulfills the program’s prerequisite requirements, applicants are required to complete the “Program Materials: Prerequisites” section of the CASPA application.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree from a regionally accredited college or university in the United States or Canada is required.

Statement of Goals: Approximately 500 to 1,000 words include your interest in Temple’s Physician Assistant graduate program; your research interests and past experiences; your future career goals; and your academic and research achievements.

Standardized Test Scores:

GRE or MCAT: Required.

Scores must be reported for a test taken within three years of matriculation. Applicants with GRE scores must contact ETS to request release of GRE scores through CASPA. The relevant code for the Physician Assistant program is 1746. MCAT scores are automatically transmitted to CASPA when the applicant’s AMCAS ID number is provided.

Interview: Candidates must have strong interpersonal skills, including the ability to listen and be culturally sensitive to another’s point of view. The PA Program Admissions Committee gives strong consideration to students who:

- have demonstrated exceptional service to others (e.g., military/police/fire service, Peace Corps, Teach for America);
- are educationally/environmentally disadvantaged; or
- hail from groups underrepresented in medicine.

Applicants are notified of their selection for interview by email. In addition to two personal interviews, the interview day includes a Clinical Skills Center Activity (MMI) and a brief essay at the time of interview.

Resume: Current resume or CV required.
Citizenship: Due to limitations on U.S. government-subsidized financing for medical education, Temple University only considers applications from U.S. citizens or non-citizens who have permanent resident or refugee/asylee status with the U.S. Immigration and Naturalization Service (INS). Applicants with permanent resident or refugee/asylee status need to provide a copy of official INS documentation when completing the CASPA application.

Healthcare/Patient Contact Experience: To be considered for an interview, 400 hours of clearly documented volunteer or paid direct hands-on patient contact experience or witnessing care firsthand are required. These hours are strongly recommended to include a minimum of 100 hours working with or shadowing an M.D., D.O., and/or Physician Assistant and 200 hours of relevant healthcare experience.

Community/Volunteer Service: Applicants are recommended to have a minimum 50 hours of community service activities, not including those performed in high school. All types of community service and volunteer activities are considered.

Clearances: Upon acceptance, students must complete a Child Abuse History Clearance and a Criminal Background Check. Any academic infraction, license infraction, felony, or misdemeanor after the date of the original CASPA application submission must be reported to the M.M.S. program within 10 business days of the occurrence.

Program Requirements

General Program Requirements:
Number of Credits Required to Earn the Degree: 117, divided into a preclinical curriculum of 69 credits over 14 months and a clinical curriculum of 48 credits over 12 months

Required Courses:

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td><strong>Summer I</strong></td>
<td></td>
</tr>
<tr>
<td>PA 8101</td>
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</tr>
<tr>
<td>PA 8102</td>
<td>1</td>
</tr>
<tr>
<td>PA 8103</td>
<td>5</td>
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<td>PA 8104</td>
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<td>PA 8105</td>
<td>4</td>
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<tr>
<td>PA 8106</td>
<td>2</td>
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<tr>
<td><strong>Term Credit Hours</strong></td>
<td>14</td>
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</table>

| **Fall**       |              |
| PA 8201        | 1            |
| PA 8202        | 1            |
| PA 8203        | 4            |
| PA 8204        | 3            |
| PA 8205        | 4            |
| PA 8206        | 4            |
| PA 8305        | 2            |
| PA 8308        | 2            |
| **Term Credit Hours** | 21            |

| **Spring**     |              |
| PA 8207        | 3            |
| PA 8301        | 1            |
| PA 8302        | 1            |

<table>
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<th>Year 2</th>
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<tr>
<td><strong>Summer</strong></td>
<td></td>
</tr>
<tr>
<td>PA 8401</td>
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<tr>
<td>PA 8402</td>
<td>1</td>
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<td>PA 8405</td>
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<tr>
<td>PA 8406</td>
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<tr>
<td>PA 9991</td>
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<tr>
<td><strong>Term Credit Hours</strong></td>
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<td><strong>Total Credit Hours</strong></td>
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<tr>
<td>PA 8303</td>
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<tr>
<td>PA 8304</td>
<td>Fundamentals of Endocrinology</td>
<td>3</td>
</tr>
<tr>
<td>PA 8306</td>
<td>Fundamentals of Neurology</td>
<td>2</td>
</tr>
<tr>
<td>PA 8307</td>
<td>Fundamentals of Rheumatology and Orthopedics</td>
<td>3</td>
</tr>
<tr>
<td>PA 8309</td>
<td>Essentials of Psychiatry</td>
<td>2</td>
</tr>
<tr>
<td>PA 8403</td>
<td>Bioethics</td>
<td>2</td>
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<tr>
<td>PA 8401</td>
<td>Physician Assistant Practice IV</td>
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<tr>
<td>PA 8402</td>
<td>Patient Assessment IV</td>
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<tr>
<td>PA 8404</td>
<td>Essentials of Men’s and Women’s Health</td>
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<td>PA 8405</td>
<td>Essentials Across the Lifespan</td>
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<tr>
<td>PA 8406</td>
<td>Essentials of Surgery and Emergency Medicine</td>
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</tr>
<tr>
<td>PA 9991</td>
<td>Scholarly Clinical Research I</td>
<td>1</td>
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<tr>
<td><strong>Total Credit Hours</strong></td>
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<th>Credit Hours</th>
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<td>PA 8303</td>
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<tr>
<td>PA 8304</td>
<td>Emergency Medicine Clerkship</td>
<td>5</td>
</tr>
<tr>
<td>PA 8306</td>
<td>Family Medicine Clerkship</td>
<td>5</td>
</tr>
<tr>
<td>PA 8307</td>
<td>General Surgery Clerkship</td>
<td>5</td>
</tr>
<tr>
<td>PA 8308</td>
<td>Internal Medicine Clerkship</td>
<td>5</td>
</tr>
<tr>
<td>PA 8309</td>
<td>Obstetrics/Gynecology Clerkship</td>
<td>5</td>
</tr>
<tr>
<td>PA 8310</td>
<td>Pediatrics Clerkship</td>
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<td>PA 8311</td>
<td>Elective I Clerkship</td>
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<tr>
<td>PA 8312</td>
<td>Elective II Clerkship</td>
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<td>PA 8313</td>
<td>Scholarly Clinical Research II</td>
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<tr>
<td>PA 8314</td>
<td>Comprehensive Review</td>
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<tr>
<td><strong>Total Credit Hours</strong></td>
<td>48</td>
<td></td>
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</tbody>
</table>

Total Credit Hours of Preclinical Coursework: 69

Total Credit Hours of Clinical Clerkship, Research, and Review: 48

Total Credit Hours: 117

1 Students spend the last 12 months of the program rotating through clerkships in seven assigned medical disciplines and two elective rotations at Temple University Hospital System locations. Students are under the direct supervision of a physician or physician assistant, although they interact with numerous other healthcare providers, including residents, interns, medical students, nurses, and others. Students are expected to work the preceptor’s work schedule, which may include nights/weekends.

Culminating Events:

Technical Standards:
The technical standards for the Lewis Katz School of Medicine at Temple University Physician Assistant Program have been established to ensure that students have the ability to demonstrate academic
mastery and competence when performing clinical skills and the ability to communicate clinical information. These technical standards are intended to ensure that each student has the academic and physical ability to acquire competencies, as defined by the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA), the American Academy of Physician Assistants (AAPA), the National Commission on Certification of Physician Assistants (NCCPA), and the Physician Assistant Education Association (PAEA). The technical standards are consistent with the technical standards set forth by the Accreditation Council for Graduate Medical Education (ACGME).

The candidate for successful completion of the Physician Assistant Program must be able to perform the following skills:

1. Observation: Observe demonstrations and experiments in the basic sciences, including but not limited to physiologic and pharmacologic demonstrations, microbiologic cultures, and microscopic studies of microorganisms and tissues in normal and pathologic states; observe a patient accurately at a distance and close at hand, necessitating the functional use of vision, which is enhanced by the functional use of the sense of smell.

2. Communication: Speak to, hear, and observe patients in order to elicit both verbal and nonverbal information; communicate effectively and sensitively with and about patients; communicate effectively and efficiently in oral and written form with the patient, the patient’s family, and all members of the healthcare team, including referral sources such as agencies and other physicians. Speech, reading, and writing are essential.

3. Motor: Exhibit sufficient motor function to carry out basic laboratory techniques and to elicit information from patients by palpation, auscultation, percussion, and other diagnostic maneuvers; perform anatomical dissections and use a microscope; perform basic laboratory tests (e.g., urinalysis, gram stain, preparation of a blood smear), diagnostic procedures (e.g., proctoscopy, paracentesis); perform/read EKGs and read X-rays; execute motor movements reasonably required to provide general care and emergency treatment to patients (e.g., cardiopulmonary resuscitation, administration of intravenous medication, application of pressure to stop bleeding, opening obstructed airways, suturing simple wounds, and performing simple, general gynecologic procedures). Coordination of both gross and fine muscular movements, equilibrium, and functional use of the senses of touch and vision are essential.

4. Intellectual, i.e., Conceptual, Integrative, and Quantitative Abilities: Possess abilities to measure, calculate, reason, analyze, and synthesize, which are required when engaging in problem solving, the critical skill demanded of physician assistants; comprehend three-dimensional relationships and understand the spatial relationships of structures.

5. Behavioral and Social Attributes: Possess the physical and emotional health required for full utilization of intellectual abilities, exercise of good judgment, prompt completion of all responsibilities attendant to the diagnosis and care of patients, and development of mature, sensitive, and effective relationships with patients; adapt to changing environments, display flexibility, and learn to function in the face of uncertainties inherent in the clinical problems of many patients. Compassion, integrity, concern for others, interpersonal skills, interest, and motivation are all personal qualities assessed during the admission and education process.

The faculty of Temple University’s Physician Assistant Program recognizes its responsibility to present candidates for the Physician Assistant degree who have the knowledge, attitudes, and skills to function in a broad variety of clinical situations and to render a broad spectrum of patient care.

**Contacts**

**Program Web Address:**
https://medicine.temple.edu/education/physician-assistant-program/about-program

**Department Information:**

Physician Assistant Program Office of Admissions
Lewis Katz School of Medicine at Temple University
3500 N. Broad Street, MERB 124
Philadelphia, PA 19140
pa-admissions@temple.edu
215-707-3656
Fax: 215-707-6932

**Submission Address for Application Materials:**
https://caspa.liaisoncas.com/

**Department Contacts:**

**Admissions:**
Christine Connolly, A.S.
Program Administrator
christine.connolly@temple.edu
215-707-8207

**Program Director:**
Christine F. Mount, M.S., PA-C
Assistant Professor, Surgery
christine.mount@temple.edu
215-707-4849

**Urban Bioethics, M.A.**

LEWIS KATZ SCHOOL OF MEDICINE (http://www.temple.edu/medicine)

**About the Program**

Urban Bioethics is a new and growing field that points a critical lens on the extreme inequalities of health and access to medical, legal, and other resources that leave many urban dwellers and communities distinctly disadvantaged, disenfranchised, and vulnerable. With its abundance of academic medical centers, Philadelphia should be one of the healthiest cities in the nation—yet health disparities persist in the city at levels surpassing national averages. Health status is especially troubling in North Philadelphia, where a disproportionately high number of residents suffer from preventable and treatable health conditions—and many battle chronic illnesses without health insurance. The interdisciplinary membership of Temple University’s Center for Bioethics, Urban Health, and Policy (CBUHP) includes community residents, faculty, students, and staff representing numerous schools within Temple University and the Temple University Health System, all working to improve health status for vulnerable urban populations and to position Temple University as a nationally recognized expert in the field of urban health and bioethics.

CBUHP is committed to defining and addressing the ethical challenges of urban health care, public health status, and policy. The M.A. in...
Urban Bioethics, offered through CBUHP, trains students in the ethics and values of health, health care delivery, and health law and policy underlying the urban context of density, diversity, and inequalities. Coursework is practical, methodological, and theoretical. The degree is designed for Temple graduate students and area professionals who face, or will soon face, the complexities and disparities of urban health, and want specialized training in the ethics, values, and politics of health care in our increasingly multi-dimensionally diverse society.

Time Limit for Degree Completion: 4 years

Campus Location: Health Sciences

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: The degree is designed for Temple graduate students and area professionals who face, or will soon face, the complexities and disparities of urban health, and want specialized training in the ethics, values, and politics of health care in our increasingly multidimensionally diverse society. Dual-degree students can take advantage of the inherent interdisciplinary nature of a dual degree, while stand-alone M.A. students must take 15 credits of coursework from outside the Lewis Katz School of Medicine. Four dual-degree programs are currently offered:

- M.D./M.A. in Urban Bioethics within the Lewis Katz School of Medicine at Temple University
- D.P.T. in Physical Therapy/M.A. in Urban Bioethics with the Temple University College of Public Health
- M.A. in Philosophy/M.A. in Urban Bioethics with the Temple University College of Liberal Arts
- Ph.D. in Philosophy/M.A. in Urban Bioethics with the Temple University College of Liberal Arts

Job Prospects: Students graduating with the M.A. in Urban Bioethics have the practical skills, including grant writing experience, and theoretical and methodological training to advance in their existing careers and compete more competitively for residencies, job placements, or other advanced graduate training programs.

Non-Matriculated Student Policy: Non-matriculated students may register for courses after an interview with the Director, at which time they should present academic transcripts. Credit toward a subsequent degree program at Temple University is limited to 9 credits, unless the student enrolls in the Urban Bioethics graduate certificate program. All 14 credits required to complete the certificate are applicable to the Urban Bioethics M.A.

Financing Opportunities: Limited support is available for M.A. students concurrently enrolled in the M.D. program at Temple University.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1
Summer: March 15

Late applications may be considered for admission, even as late as up to two weeks prior to the term’s start date.

Dual-degree applicants should note that application deadlines for companion programs may be earlier than the deadlines for the Urban Bioethics, M.A. Please visit the companion program’s description in the Graduate Bulletin for details.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2-3

Students applying to the Urban Bioethics M.A. program must submit 3 letters of reference and original transcripts from all post-high school institutions attended. However, students already matriculated into a graduate program at Temple University who are applying for a dual degree may:

- upon permission of their recommenders and their home school, use their home school letters of recommendation for the Urban Bioethics M.A. application; and
- ask the Urban Bioethics program administrators to request a transcript from the home school.

From Whom: Letters of recommendation should be obtained from college/university faculty members familiar with your academic performance and/or from professional supervisors familiar with your professional experience, accomplishments, and potential for success in a graduate program.

Bachelor’s Degree in Discipline/Related Discipline: While a baccalaureate degree is required for admission to the M.A. program, the major studied for the undergraduate degree is not specified.

Statement of Goals: Two to three double-spaced pages should address how you see the M.A. in Urban Bioethics as integral to your current educational goals and current/future career development.

Standardized Test Scores:
GRE: Required for applicants graduating from traditional undergraduate programs. Applicants for the dual degree and those already holding an advanced degree are not required to submit GRE scores. Other applicants should contact the Director of Education or the Program Coordinator for clarification about their need to submit GRE scores as part of the application.

TOEFL: 79 iBT or 550 PBT minimum

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 32

Required Courses:

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<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<td>UBTH 5001</td>
<td>Urban Bioethics 1 (Professional Students)</td>
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<tr>
<td>UBTH 5002</td>
<td>Urban Bioethics 2 (Professional Students)</td>
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<td>UBTH 5022</td>
<td>Community Engagement I (Professional Students)</td>
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</tr>
<tr>
<td>UBTH 5023</td>
<td>Community Engagement II (Professional Students)</td>
<td>2</td>
</tr>
<tr>
<td>UBTH 5031</td>
<td>The Values, Ethics, &amp; Economics of Health Care Delivery in Urban Communities (Professional Students)</td>
<td>2</td>
</tr>
<tr>
<td>UBTH 5041</td>
<td>Critical Social Science and Urban Bioethics (Professional Students)</td>
<td>2</td>
</tr>
</tbody>
</table>
UBTH 9996 | MA in Urban Bioethics Thesis (Graduate Students) | 3
Vehicle | 15
Total Credit Hours | 32

**Culminating Events:**

**Thesis:**
The thesis should make a novel contribution to the field. Toward this end, the student conducts an original research project, empirical or non-empirical, and produces a publishable paper. The research is undertaken with guidance from an approved thesis advisor from the Lewis Katz School of Medicine; the Center for Bioethics, Urban Health, and Policy; or a dual-degree student’s home department.

**Contacts**

**Program Web Address:**
https://medicine.temple.edu/departments-centers/research-centers/
center-bioethics-urban-health-and-policy/educational-programs

**Department Information:**
Center for Bioethics, Urban Health, and Policy
Lewis Katz School of Medicine at Temple University
3500 N. Broad Street, MERB Suite 324F
Philadelphia, PA 19140
MAUB@temple.edu
215-707-7178

**Mailing Address for Application Materials:**
Center for Bioethics, Urban Health, and Policy
Lewis Katz School of Medicine at Temple University
3500 N. Broad Street, MERB Suite 324F
Philadelphia, PA 19140

**Department Contacts:**

*Director of Education:*
Nora Jones, Ph.D.
nora.jones@temple.edu
215-707-7178

*Assistant Director:*
Providenza Loera Rocco, J.D., M.S.W., M.B.E.
providenza.rocco@temple.edu
215-707-9963
School of Pharmacy

Located on Temple University’s bustling Health Sciences Center campus, the School of Pharmacy strives to bridge the gaps between drug discovery, preclinical basic research, and translation medicine. We are positioned to continue to provide leadership in our educational mission, while also pursuing innovative research. In conjunction with both of these efforts, we train future researchers in pharmaceutical sciences, drug discovery and development, and basic preclinical and translational research.

In recent years, the School of Pharmacy has enjoyed tremendous growth in our research enterprise. We have established several centers of excellence for scientific study across a wide range of disciplines. The Temple University Drug Discovery Initiative, launched in 2010, has resulted in a substantial expansion of our research facilities and an increase in the number of talented and accomplished researchers joining our faculty and staff.

Efforts by the faculty and research staff of the School of Pharmacy are focused on multidisciplinary approaches to complex scientific problems associated with a number of important disease states. Funding for our research has been generously provided by several foundations, federal and state-funded grants, contract research programs, and Temple University research awards. Members of our faculty have been recognized by outside scientific organizations with numerous honors, awards, and invited lectureships.

The School of Pharmacy offers students the ideal combination of a high-quality education, dedicated faculty, active research programs, and a supportive atmosphere enlivened by diversity and community service.

Programs

Degree Programs and Select Certificates

- Global Clinical and Pharmacovigilance Regulations, M.S. (p. 639)
- Pharmaceutical and Regulatory Sciences, M.S. (p. 640)
- Pharmaceutical Sciences/Medicinal Chemistry, M.S. (p. 640)
- Pharmaceutical Sciences/Pharmaceutics, M.S. (p. 642)
- Pharmaceutical Sciences/Pharmacodynamics, M.S. (p. 644)
- Pharmaceutical Sciences/Medicinal Chemistry, Ph.D. (p. 646)
- Pharmaceutical Sciences/Pharmaceutics, Ph.D. (p. 648)
- Pharmaceutical Sciences/Pharmacodynamics, Ph.D. (p. 650)
- Regulatory Affairs and Quality Assurance, M.S. (p. 652)
- Graduate Certificate: Advanced Regulatory Affairs and Quality Assurance (p. 654)
- Graduate Certificate: Biopharmaceutical Manufacturing and Regulatory Affairs (p. 655)
- Graduate Certificate: Food Regulatory Affairs and Quality Assurance (p. 656)
- Graduate Certificate: Pharmaceutical Labeling, Advertising and Promotions (p. 657)
- Graduate Certificate: Sterile Process Manufacturing (p. 658)

Certificates

- Basic Pharmaceutical Development
- Biosimilars and Generic Drugs
- Clinical Trial Management
- Drug Development
- Global Pharmacovigilance/Benefit-Risk Management
- Good Manufacturing Practices for the 21st Century
- Medical Device
- Pharmaceutics
- Validation Sciences

Post-Master’s Certificates

- Biosimilars and Generic Drugs
- Clinical Trial Management
- Global Pharmacovigilance/Benefit-Risk Management
- Good Manufacturing Practices for the 21st Century
- Medical Device
- Validation Sciences

Graduate Faculty

Magid Abou-Gharbia, Professor, Department of Pharmaceutical Sciences, School of Pharmacy; Ph.D., University of Pennsylvania.

Carlos Barrero, Assistant Professor, Department of Pharmaceutical Sciences, School of Pharmacy; M.D., Universidad de Caldas.

Benjamin E. Blass, Assistant Professor (Research), Department of Pharmaceutical Sciences, School of Pharmacy; Ph.D., University of Rochester.

Michael R. Borenstein, Associate Professor, Department of Pharmaceutical Sciences, School of Pharmacy; Ph.D., Temple University.

Daniel J. Canney, Associate Professor, Department of Pharmaceutical Sciences, School of Pharmacy; Ph.D., Temple University.

Wayne E. Childers, Associate Professor, Department of Pharmaceutical Sciences, School of Pharmacy; Ph.D., University of Georgia.

A. Reza Fassihi, Professor, Department of Pharmaceutical Sciences, School of Pharmacy; Ph.D., Brighton University.

Marc A. Ilies, Associate Professor, Department of Pharmaceutical Sciences, School of Pharmacy; Ph.D., University of Bucharest.

Marlene A. Jacobson, Associate Professor, Department of Pharmaceutical Sciences, School of Pharmacy; Ph.D., University of Delaware.

Kenneth R. Korzekwa, Associate Professor, Department of Pharmaceutical Sciences, School of Pharmacy; Ph.D., University of Washington.

David B. Lebo, Associate Professor (Teaching/Instructional), Department of Pharmaceutical Sciences, School of Pharmacy; Ph.D.

Salim Merali, Associate Professor, Department of Pharmaceutical Sciences, School of Pharmacy; Ph.D., City University of New York.

Swati V. Nagar, Associate Professor, Department of Pharmaceutical Sciences, School of Pharmacy; Ph.D., University of Minnesota.

Oscar Perez-Leal, Assistant Professor (Research), Department of Pharmaceutical Sciences, School of Pharmacy; M.D., Universidad del Norte.
Global Clinical and Pharmacovigilance Regulations, M.S.

SCHOOL OF PHARMACY (http://www.temple.edu/pharmacy)

About the Program

The M.S. in Global Clinical and Pharmacovigilance Regulations addresses the career needs of individuals involved in domestic and global clinical trials and pharmacovigilance activities within the pharmaceutical industry, including managing and assisting in clinical trials, supervising record keeping of clinical trials, reviewing safety data of clinical trials or post-marketing reports of healthcare products, and other related activities. In recent years, pharmacovigilance activities have been conducted alongside clinical trials to determine the benefits and risk factors of products both under development and on the market. Pharmacovigilance, or drug safety, relates to the myriad of activities the pharmaceutical and related industries use in monitoring, assessing, and compiling the benefits and risks involved with their products. Whereas pharmacovigilance studies used to be undertaken once products were already on the market, the latest trend is to conduct these studies with "first in human" studies, which are generally done on healthy volunteer subjects to ascertain how a new product affects an individual without the known disease state. Clinical trials are highly regulated research studies of pharmaceutical and related products, treatment options, or medical devices in human beings. Their goal is to find new or better ways to prevent, detect, diagnose, or treat disease or disease states. In order to accomplish this, clinical trials must rigorously follow certain protocols, study designs, and data collection and monitoring methods defined by regulatory authorities.

The M.S. in Global Clinical and Pharmacovigilance Regulations degree program is primarily designed for Pharm.D. students who already possess extensive experience in clinical settings, but would benefit from specific knowledge of domestic and global regulations to be more marketable for careers in the pharmaceutical industry. This M.S. degree combining clinical practices with global pharmacovigilance empowers Pharm.D. graduates with knowledge of:

- the need for pharmacovigilance and clinical regulations;
- the evolution of global pharmacovigilance and clinical regulations;
- domestic and international pharmacovigilance and clinical requirements and regulations for healthcare products;
- differences in regulations between product types and regions;
- current utilization of pharmacovigilance data throughout the lifespan of all products;
- the ability to contextualize and interpret safety data; and
- the paramount importance of data collection, statistics, and data mining in the industry.

Time Limit for Degree Completion: 5 years

Ellen A. Walker, Professor, Department of Pharmaceutical Sciences, School of Pharmacy; Ph.D., University of Michigan.

Ho-Lun Wong, Associate Professor, Department of Pharmaceutical Sciences, School of Pharmacy; Ph.D., University of Toronto.

Campus Location: Fort Washington on evenings and weekends; also entirely online

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: The program fosters interdisciplinary study with the pharmaceutical sciences and technology.

Job Prospects: The program prepares graduates for positions in the global marketplace related to drug safety and human clinical trials.

Non-Matriculated Student Policy: Non-matriculated students are able to take up to 9 credits before formal application must be made to the program.

Financing Opportunities: Master’s-level students are generally not considered for financial support.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1; December 15 international
Spring: November 1; September 1 international
Summer I: March 1; January 15 international

Applications are processed throughout the year. Late applications may be considered for admission. However, the entire application packet must be received by the Graduate Studies Office before it is reviewed by the Admissions Committee. Applicants are responsible for making sure that all materials have been received.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained from college/university faculty members familiar with academic competence.

Coursework Required for Admission Consideration: It is expected that applicants are Pharm.D. students or graduates.

Bachelor's Degree in Discipline/Related Discipline: A B.S. degree in Biochemistry, Biology, Chemistry, Physics, or a health-related discipline is required.

Applicants who earned a degree at a non-U.S. institution must submit an equivalency evaluation of their transcript(s) through a third-party provider, either World Education Services (WES) (https://www.wes.org) or Educational Credential Evaluators (ECE) (https://www.ece.org).

Statement of Goals: Describe your experience in the pharmaceutical or related industries, indicating how the Global Clinical and Pharmacovigilance Regulations M.S. program will help you achieve your career objectives.

Standardized Test Scores:

For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:

TOEFL: 85 iBT or 563 PBT minimum

IELTS: 7.0 academic
PT Academic: 58 minimum

**Resume:** Current resume required.

**Transfer Credit:** Temple University Pharm.D. students may apply a maximum of 15 credits toward this M.S. degree. The following courses are applicable:

- an Ethics course (2 s.h.)
- PS P254 Biostatistics/Medical Literature Evaluation (2 s.h.)
- PS P312 Adverse Drug Reactions: An Organ Systems Approach (2 s.h.)
- PS P313 Clinical Pharmacokinetics (3 s.h.)
- QARA 5459 Drug Development (3 s.h.)
- QARA 5536 Good Clinical Practices (3 s.h.)
- QARA 5537 Clinical Trial Management (3 s.h.)

Students in and graduates of Pharm.D. programs at other accredited schools of pharmacy may apply for transfer credits. Such requests are decided on a case-by-case basis. A maximum of 6 transfer credits are permitted for this group of prospective students.

**Program Requirements**

**General Program Requirements:**

*Number of Credits Required Beyond the Baccalaureate:* 30

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>QARA 5459</td>
<td>Drug Development</td>
<td>3</td>
</tr>
<tr>
<td>QARA 5508</td>
<td>Good Pharmacovigilance Operations</td>
<td>3</td>
</tr>
<tr>
<td>QARA 5536</td>
<td>Good Clinical Practices</td>
<td>3</td>
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<tr>
<td>QARA 5537</td>
<td>Clinical Trial Management</td>
<td>3</td>
</tr>
<tr>
<td>QARA 5538</td>
<td>Clinical Drug Safety and Pharmacovigilance or QARA 5571</td>
<td>3</td>
</tr>
<tr>
<td>QARA 5573</td>
<td>Pharmacoepidemiology</td>
<td>3</td>
</tr>
<tr>
<td>QARA 5578</td>
<td>Benefit Risk Management and Safety Signaling of Healthcare Products</td>
<td>3</td>
</tr>
<tr>
<td>QARA 5579</td>
<td>Regulatory and Legal Basis of Pharmacovigilance</td>
<td>3</td>
</tr>
</tbody>
</table>

**Electives:**

Select from the following approved courses:

- PS P312 Adverse Drug Reactions: An Organ Systems Approach
- PS P313 Clinical Pharmacokinetics
- QARA 5497 Statistics for Clinical Trials
- QARA 5539 Global Clinical Drug Development
- QARA 5547 Project Management for Clinical Trials
- QARA 5612 Bioethics for Pharmaceutical Professionals
- QARA 5618 Clinical Data Management (CDM)

**Total Credit Hours:** 30

1 Alternately, students may take PS P254 Biostatistics.

**Culminating Events:** This program has no culminating events beyond completion of coursework.

**Contacts**

**Program Web Address:**

https://pharmacy.temple.edu/academics/master-science-global-clinical-and-pharmacovigilance-regulations-gcpr

**Department Information:**

Global Clinical and Pharmacovigilance Regulations Graduate Program
Temple University School of Pharmacy RAQA Office
425 Commerce Drive, Suite 175
Fort Washington, PA 19034-2713
qara@temple.edu
267-468-8560

**Mailing Address for Application Materials:**

Global Clinical and Pharmacovigilance Regulations Graduate Program
Temple University School of Pharmacy RAQA Office
425 Commerce Drive, Suite 175
Fort Washington, PA 19034-2713

**Department Contacts:**

**Admissions:**
Wendy Lebing, MALD, M.S.
Program Coordinator
qara@temple.edu
267-468-8560

**Graduate Chairperson:**
Daniel J. Canney, Ph.D.
daniel.canney@temple.edu
215-707-4948

**Chairperson:**
Wendy Lebing, MALD, M.S.
wlebing@temple.edu
267-468-8560

**Pharmaceutical and Regulatory Sciences, M.S.**

SCHOOL OF PHARMACY (http://www.temple.edu/pharmacy)

**About the Program**

This program is not accepting applications for the 2018-2019 academic year.

**Pharmaceutical Sciences/Medicinal Chemistry, M.S.**

SCHOOL OF PHARMACY (http://www.temple.edu/pharmacy)

**About the Program**

The School of Pharmacy offers a graduate program leading to the M.S. and to the Ph.D. in Pharmaceutical Sciences with a concentration in Medicinal Chemistry. The program is designed to prepare students for positions in the pharmaceutical industry, government agencies, and faculty positions in schools of pharmacy.
Time Limit for Degree Completion: 5 years

Campus Location: Health Sciences Center, Main

Some courses may be offered at the Fort Washington campus. Research must be carried out at the Health Sciences Center campus under the supervision of an advisor who is a member of the Graduate Faculty.

Full-Time/Part-Time Status: Full-time status is recommended due to the nature of ongoing research.

Interdisciplinary Study: The program encourages interdisciplinary coursework, research, and collaborations among faculty and students with interests in Biochemistry, Molecular Modeling, Organic Chemistry, and Pharmacology.

Areas of Specialization: The focus is Medicinal and Pharmaceutical Chemistry, including design and synthesis of ligands for nicotinic receptors and ligands for retinoic acid receptors, novel anticonvulsants, and the development of analytical methodologies.

Job Prospects: The program is primarily concentrated to provide research scientists for the pharmaceutical industry, government agencies, and faculty positions in schools of pharmacy.

Non-Matriculated Student Policy: Non-matriculated students are able to take up to 9 credits before formal application must be made to the program.

Financing Opportunities: Master's-level students are generally not considered for financial support. Financial support in the form of University fellowships, teaching assistantships, and research assistantships is generally available to Ph.D. candidates only. Only under rare circumstances are M.S. students considered for support.

Admission Requirements and Deadlines

Application Deadline:

Fall: December 15

All applications are evaluated together after the deadline.

APPLY ONLINE to this graduate program (http://www.temple.edu/apply/common/appcheck.asp).

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members familiar with the applicant’s academic competence and professionals in a supervisory position.

Coursework Required for Admission Consideration: It is recommended that applicants complete the courses (or their equivalent as determined by the School of Pharmacy) taken in obtaining a B.S. in Chemistry, preferably Organic Chemistry, before entering the program.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree in Biochemistry, Chemistry (preferably Organic Chemistry), or Pharmacy is required.

Applicants who earned a degree at a non-U.S. institution must submit an equivalency evaluation of their transcript(s) through a third-party provider, either World Education Services (WES) (https://www.wes.org) or Educational Credential Evaluators (ECE) (https://www.ece.org).

Statement of Goals: In approximately 500 to 1,000 words, state your specific interest in Temple's program, your research goals, your future career goals, and your academic and research achievements.

Standardized Test Scores:

GRE: Required. Scores should be in the 65th percentile or above.

For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:

TOEFL: 85 iBT or 563 PBT minimum

IELTS: 7.0 academic

PT Academic: 58 minimum

Resume: Submission of a current resume is encouraged.

Transfer Credit: With approval, courses specific to Medicinal Chemistry or Organic Chemistry may be transferred into the program. Applicants must present supporting documentation (syllabus, course description, and/or transcript) for transfer consideration at the time of application. The maximum number of credits a student may transfer into the M.S. program is 6.

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 36

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>PS 8002</td>
<td>Pharmaceutical Analysis</td>
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</tr>
<tr>
<td>PS 8051</td>
<td>Seminar in Pharm Science</td>
<td>1</td>
</tr>
<tr>
<td>PS 8121</td>
<td>Department of Pharmaceutical Sciences Seminar Series</td>
<td>1</td>
</tr>
<tr>
<td>PS 8127</td>
<td>Pharmacokinetics</td>
<td>3</td>
</tr>
<tr>
<td>PS 8128</td>
<td>Principles in Drug Discovery</td>
<td>3</td>
</tr>
<tr>
<td>PS 8129</td>
<td>Bioethics in Research</td>
<td>2</td>
</tr>
<tr>
<td>PS 8403</td>
<td>Advanced Pharmacogenomics</td>
<td>2</td>
</tr>
<tr>
<td>PS 8151</td>
<td>Medicinal Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>QARA 5451</td>
<td>Statistical Quality Control</td>
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Concentration-Specific Courses:

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<tr>
<th>Code</th>
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<th>Credit</th>
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<tbody>
<tr>
<td>PS 8009</td>
<td>Advanced Medicinal Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>PS 8011</td>
<td>Advanced Medicinal Chemistry II</td>
<td>3</td>
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Electives 1

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit</th>
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<tbody>
<tr>
<td>PS 9996</td>
<td>Master's Research</td>
<td>6</td>
</tr>
</tbody>
</table>

Total Credit Hours 36

1 Electives should be taken primarily in Chemistry, although courses in Pharmacology and Computer and Information Science are also permissible.

Culminating Events:

Thesis:

The M.S. thesis is an original, theoretical, and/or empirical study that contributes to the field of Medicinal/Pharmaceutical Chemistry. It should expand existing knowledge and demonstrate the student’s knowledge of

Admission Requirements and Deadlines

Application Deadline:

Fall: December 15

All applications are evaluated together after the deadline.

APPLY ONLINE to this graduate program (http://www.temple.edu/apply/common/appcheck.asp).

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members familiar with the applicant’s academic competence and professionals in a supervisory position.

Coursework Required for Admission Consideration: It is recommended that applicants complete the courses (or their equivalent as determined by the School of Pharmacy) taken in obtaining a B.S. in Chemistry, preferably Organic Chemistry, before entering the program.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree in Biochemistry, Chemistry (preferably Organic Chemistry), or Pharmacy is required.

Applicants who earned a degree at a non-U.S. institution must submit an equivalency evaluation of their transcript(s) through a third-party provider, either World Education Services (WES) (https://www.wes.org) or Educational Credential Evaluators (ECE) (https://www.ece.org).

Statement of Goals: In approximately 500 to 1,000 words, state your specific interest in Temple's program, your research goals, your future career goals, and your academic and research achievements.

Standardized Test Scores:

GRE: Required. Scores should be in the 65th percentile or above.

For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:

TOEFL: 85 iBT or 563 PBT minimum

IELTS: 7.0 academic

PT Academic: 58 minimum

Resume: Submission of a current resume is encouraged.

Transfer Credit: With approval, courses specific to Medicinal Chemistry or Organic Chemistry may be transferred into the program. Applicants must present supporting documentation (syllabus, course description, and/or transcript) for transfer consideration at the time of application. The maximum number of credits a student may transfer into the M.S. program is 6.

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 36

Required Courses:

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<td>PS 8127</td>
<td>Pharmacokinetics</td>
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<td>PS 8128</td>
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<td>Advanced Pharmacogenomics</td>
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<tbody>
<tr>
<td>PS 9996</td>
<td>Master's Research</td>
<td>6</td>
</tr>
</tbody>
</table>

Total Credit Hours 36

1 Electives should be taken primarily in Chemistry, although courses in Pharmacology and Computer and Information Science are also permissible.

Culminating Events:

Thesis:

The M.S. thesis is an original, theoretical, and/or empirical study that contributes to the field of Medicinal/Pharmaceutical Chemistry. It should expand existing knowledge and demonstrate the student’s knowledge of
research methods and a mastery of her/his primary area of interest. The thesis should be rigorously investigated; uphold the ethics and standards of the pharmaceutical sciences; demonstrate an understanding of the relationship between the primary area of interest and the broader field of medicinal chemistry; and be prepared for publication in a professional journal.

Students who are preparing to defend their thesis should confirm a time and date with their advisor and register with the Administrative Assistant at least 15 days before the defense is to be scheduled. The Administrative Assistant arranges the time, date, and room within two working days and forwards to the student the appropriate forms. Once approved, the public announcement of the defense is posted.

The Thesis Examining Committee evaluates the student's ability to express verbally her/his research question, methodological approach, primary findings, and implications. This committee is comprised of at least three Graduate Faculty members. Two members, including the Chair, must be members of the Graduate Faculty of the School of Pharmacy. The Thesis Examining Committee votes to pass or fail the thesis and the defense at the conclusion of the public presentation.

Contacts

Program Web Address:
http://pharmacy.temple.edu/academics/graduate-program-thesis-based-ms-and-phd-degrees

Department Information:
Dept. of Pharmaceutical Sciences Office of Graduate Studies
School of Pharmacy
3307 N. Broad Street, Suite 528
Philadelphia, PA 19140
tuspgrad@temple.edu
215-707-4972

Mailing Address for Application Materials:
Office of Graduate Studies
School of Pharmacy
3307 N. Broad Street, Suite 528 (602-00)
Philadelphia, PA 19140

Department Contacts:
Admissions:
Sophon Din
tuspgrad@temple.edu

Program Coordinator:
Daniel J. Canney, Ph.D.
tuspgrad@temple.edu

Graduate Chairperson:
Daniel J. Canney, Ph.D.
phscgrad@temple.edu

Department Chairperson:
Robert Raffa, Ph.D.
robert.raffa@temple.edu

Pharmaceutical Sciences/Pharmaceutics, M.S.

SCHOOL OF PHARMACY (http://www.temple.edu/pharmacy)

About the Program

The School of Pharmacy offers a graduate program leading to the M.S., with a choice of Thesis or Non-Thesis Option, and the Ph.D. in Pharmaceutical Sciences with a concentration in Pharmaceutics. The program is designed to prepare students for positions in the pharmaceutical industry, government agencies, and faculty positions in schools of pharmacy.

Time Limit for Degree Completion: 5 years

Campus Location: Health Sciences Center, Fort Washington

Students in the Thesis Option take a majority of required and elective courses at the Health Sciences Center and Fort Washington campuses. Some courses may be offered at Main campus. Research must be carried out at the Health Sciences Center campus under the supervision of an advisor who is a member of the Graduate Faculty.

Students in the Non-Thesis Option take a majority of required and elective courses at Fort Washington. Some courses may be offered at the Health Sciences Center campus.

Full-Time/Part-Time Status: The program is considered full-time for those in the Thesis Option and part-time for those in the Non-Thesis Option. Part-time students can complete the program through classes offered during evenings and weekends primarily at the Fort Washington campus.

Interdisciplinary Study: The program encourages interdisciplinary coursework, research, and collaborations among faculty and students with interests in Biochemistry, Molecular Modeling, Organic Chemistry, and Pharmacology.

Areas of Specialization: Faculty members specialize and offer graduate coursework in controlled release dosage forms, drug metabolism, encapsulation, mechanisms of drug action, pharmaceutical analysis, pharmacokinetics, and solid dosage forms.

Job Prospects: Graduates generally find employment in the pharmaceutical industry, government agencies, or academia.

Non-Matriculated Student Policy: Non-matriculated students are able to take up to 9 credits before formal application must be made to the program.

Financing Opportunities: Master's-level students are generally not considered for financial support. Financial support in the form of University fellowships, teaching assistantships, and research assistantships is generally available to Ph.D. candidates only. Only under rare circumstances are M.S. students in the Thesis Option considered for support; students enrolled in the Non-Thesis Option are ineligible for financial support because their program is part-time.

Admission Requirements and Deadlines

Application Deadline:
Fall: December 15
All applications are evaluated together after the deadline.

**APPLY ONLINE** to this graduate program.

**Letters of Reference:**
*Number Required:* 3

*From Whom:* Letters of recommendation should be obtained from college/university faculty members familiar with the applicant's academic competence and professionals in a supervisory position.

**Coursework Required for Admission Consideration:** It is recommended that applicants should have completed a minimum of two years of General Chemistry, including Organic Chemistry; one Analytical Chemistry course; and Mathematics, including at least Introductory Calculus. A course in Physical Chemistry is also advisable.

**Bachelor's Degree in Discipline/Related Discipline:** A baccalaureate degree in Pharmacy, Biology, Biochemistry, Chemistry, Engineering, or a related discipline is required.

Applicants who earned a degree at a non-U.S. institution must submit an equivalency evaluation of their transcript(s) through a third-party provider, either World Education Services (WES) (https://www.wes.org) or Educational Credential Evaluators (ECE) (https://www.ece.org).

**Statement of Goals:** In approximately 500 to 1,000 words, state your specific interest in Temple's program, your research goals, your future career goals, and your academic and research achievements.

**Standardized Test Scores:**

GRE: Required for the **Thesis Option**. Scores should be in the 65th percentile or above. Note that the GRE is not required for the **Non-Thesis Option**.

For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:

TOEFL: 85 iBT or 563 PBT minimum

IELTS: 7.0 academic

PT Academic: 58 minimum

**Resume:** Submission of a current resume is encouraged for those in the **Thesis Option**. It is required for those in the **Non-Thesis Option**.

**Transfer Credit:** With approval, courses specific to the field of Pharmaceutics may be transferred into the program. Applicants must present supporting documentation (syllabus, course description, and/or transcript) for transfer consideration at the time of application. The maximum number of credits a student may transfer into the M.S. program is 6.

**Program Requirements**

**General Program Requirements:**
*Number of Credits Required Beyond the Baccalaureate:* 36

Required Courses:

**Thesis Option**

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<tr>
<td>PS 8000</td>
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<td>3</td>
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<tr>
<td>PS 8002</td>
<td>Pharmaceutical Analysis</td>
<td>3</td>
</tr>
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<td>PS 8051</td>
<td>Seminar in Pharm Science</td>
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<td>PS 8127</td>
<td>Pharmacokinetics</td>
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<td>Bioethics in Research</td>
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<tr>
<td>QARA 5451</td>
<td>Statistical Quality Control</td>
<td>3</td>
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**Concentration-Specific Courses**

<table>
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<th>Title</th>
<th>Credit Hours</th>
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<tr>
<td>PS 8003</td>
<td>Pharmaceutical Manufacturing I: Preformulation/ Formulation</td>
<td>3</td>
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<tr>
<td>PS 8004</td>
<td>Pharmaceutical Manufacturing II</td>
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</tr>
<tr>
<td>PS 8005</td>
<td>Pharmaceutical Biotechnology</td>
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<td>PS 8006</td>
<td>Physical Pharmacy I</td>
<td>3</td>
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<tr>
<td>PS 8007</td>
<td>Applied Biopharmaceutics</td>
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**Electives**

Select six of the following approved courses: 18

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<tbody>
<tr>
<td>PS 5451</td>
<td>Statistical Quality Control</td>
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<tr>
<td>PS 5492</td>
<td>Production of Sterile Products</td>
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<td>PS 5493</td>
<td>Sterilization Processes</td>
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<td>PS 5499</td>
<td>Pharmaceutical Drug Dosage Forms</td>
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<td>PS 5501</td>
<td>Development of Sterile Products</td>
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<td>PS 8008</td>
<td>Advanced Principles of Pharmacokinetics</td>
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<td>Introduction to Toxicology</td>
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<td>PS 8582</td>
<td>Physical Pharmacy II</td>
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<tr>
<td>QARA 5469</td>
<td>Pharmaceutical Laboratory Quality Systems and Operations</td>
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<td>QARA 5477</td>
<td>Good Manufacturing Practices</td>
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<td>QARA 5478</td>
<td>High Purity Water Systems</td>
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<td>QARA 5512</td>
<td>Microbiological Concepts in Pharmaceutical Manufacturing</td>
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<td>QARA 5575</td>
<td>Regulatory Sciences: Managing the Guidelines to Quality</td>
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<tr>
<td>QARA 5655</td>
<td>Analytical Chemistry in Pharmaceutical Laboratories</td>
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**Total Credit Hours** 36

**Non-Thesis Option**

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<td>Pharmaceutical Analysis</td>
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<tr>
<td>PS 8003</td>
<td>Pharmaceutical Manufacturing I: Preformulation/ Formulation</td>
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</tr>
<tr>
<td>PS 8004</td>
<td>Pharmaceutical Manufacturing II</td>
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<td>PS 8005</td>
<td>Pharmaceutical Biotechnology</td>
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<tr>
<td>PS 8006</td>
<td>Physical Pharmacy I</td>
<td>3</td>
</tr>
<tr>
<td>PS 8007</td>
<td>Applied Biopharmaceutics</td>
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**Culminating Events:**
Thesis:
For the Thesis Option, the M.S. thesis is the culminating event. The thesis is an original, theoretical, and/or empirical study that contributes to the field of Pharmaceutics. It should expand existing knowledge and demonstrate the student's knowledge of research methods and a mastery of her/his primary area of interest. The thesis should be rigorously investigated; uphold the ethics and standards of the Pharmaceutics field; demonstrate an understanding of the relationship between the primary area of interest and the broader field of Pharmaceutics; and be prepared for publication in a professional journal.

Students who are preparing to defend their thesis should confirm a time and date with their advisor and register with the Administrative Assistant at least 15 days before the defense is to be scheduled. The Administrative Assistant arranges the time, date, and room within two working days and forwards to the student the appropriate forms. Once approved, the public announcement of the defense is posted.

The Thesis Examining Committee evaluates the student's ability to express verbally her/his research question, methodological approach, primary findings, and implications. This committee is comprised of at least three Graduate Faculty members. Two members, including the Chair, must be members of the Graduate Faculty of the School of Pharmacy. The Thesis Examining Committee votes to pass or fail the thesis and the defense at the conclusion of the public presentation.

The Non-Thesis Option has no culminating events.

Contacts

Program Web Address:
http://pharmacy.temple.edu/academics/graduate-program-thesis-based-ms-and-phd-degrees

Department Information:
Dept. of Pharmaceutical Sciences Office of Graduate Studies
School of Pharmacy
3307 N. Broad Street, Suite 258
Philadelphia, PA 19140
tuspgrad@temple.edu
215-707-4972

Mailing Address for Application Materials:
Office of Graduate Studies
School of Pharmacy
3307 N. Broad Street, Suite 528 (602-00)
Philadelphia, PA 19140

Department Contacts:
Admissions:
Sophon Din
tuspgrad@temple.edu

Program Coordinator:
Daniel J. Canney, Ph.D.
tuspgrad@temple.edu

Graduate Chairperson:
Daniel J. Canney, Ph.D.
phscgrad@temple.edu

Robert Raffa, Ph.D.
robert.raffa@temple.edu

Pharmaceutical Sciences/
Pharmacodynamics, M.S.

SCHOOL OF PHARMACY (http://www.temple.edu/pharmacy)

About the Program

The School of Pharmacy offers a graduate program leading to the M.S. and to the Ph.D. in Pharmaceutical Sciences with a concentration in Pharmacodynamics. The program is designed to prepare students for positions in the pharmaceutical industry, government agencies, and faculty positions in departments engaged in biomedical research.

Time Limit for Degree Completion: 5 years

Campus Location: Health Sciences Center, Main

Some courses may be offered at the Fort Washington campus. Research must be carried out at the Health Sciences Center campus under the supervision of an advisor who is a member of the Graduate Faculty.

Full-Time/Part-Time Status: Full-time status is recommended due to the nature of ongoing research.

Interdisciplinary Study: The program encourages interdisciplinary coursework, research, and collaborations among faculty and students with interests in Biochemistry, Molecular Modeling, Organic Chemistry, and Pharmacology.

Areas of Specialization: The Pharmacodynamics concentration involves the study of integrated drug transport and mechanism of drug action research.

Job Prospects: Graduates generally accept employment offers shortly before or after defending their thesis. Job opportunities for graduates include positions as postdoctoral researchers, scientists in the pharmaceutical industry, and faculty members in a variety of departments involved in biomedical research.

Non-Matriculated Student Policy: Non-matriculated students are able to take up to 9 credits before formal application must be made to the program.

Financing Opportunities: Master's-level students are generally not considered for financial support. Financial support in the form of University fellowships, teaching assistantships, and research assistantships is generally available to Ph.D. candidates only. Only under rare circumstances are M.S. students considered for support.

Admission Requirements and Deadlines

Application Deadline:
Fall: December 15

All applications are evaluated together after the deadline.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 3
From Whom: Letters of recommendation should be obtained from college/university faculty members familiar with the applicant's academic competence and professionals in a supervisory position.

Coursework Required for Admission Consideration: It is recommended that applicants complete the courses (or their equivalent as determined by the School of Pharmacy) taken in obtaining a B.S. degree in Biochemistry, Biology, Pharmacology, Pharmacy, or Psychology.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree in Biochemistry, Biology, Molecular Biology, Pharmacology, Pharmacy, or Psychology is required.

Applicants who earned a degree at a non-U.S. institution must submit an equivalency evaluation of their transcript(s) through a third-party provider, either World Education Services (WES) (https://www.wes.org) or Educational Credential Evaluators (ECE) (https://www.ece.org).

Statement of Goals: In approximately 500 to 1,000 words, state your specific interest in Temple's program, your research goals, your future career goals, and your academic and research achievements.

Standardized Test Scores:

GRE: Required. Scores should be in the 65th percentile or above.

For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:

TOEFL: 85 iBT or 563 PBT minimum
IELTS: 7.0 academic
PT Academic: 58 minimum

Resume: Submission of a current resume is encouraged.

Transfer Credit: With approval, courses specific to the field of Pharmacodynamics may be transferred into the program. Applicants must present supporting documentation (syllabus, course description, and/or transcript) for transfer consideration at the time of application. The maximum number of credits a student may transfer into the M.S. program is 6.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 36

Required Courses:

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<tr>
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<th>Credit Hours</th>
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<td>PS 8002</td>
<td>Pharmaceutical Analysis</td>
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<td>PS 8051</td>
<td>Seminar in Pharm Science</td>
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<td>PS 8121</td>
<td>Department of Pharmaceutical Sciences Seminar Series</td>
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<td>PS 8127</td>
<td>Pharmacokinetics</td>
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<td>PS 8128</td>
<td>Principles in Drug Discovery</td>
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<td>PS 8129</td>
<td>Bioethics in Research</td>
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<td>PS 8402</td>
<td>Pharmacodynamics</td>
<td>3</td>
</tr>
<tr>
<td>PS 8403</td>
<td>Advanced Pharmacogenomics</td>
<td>2</td>
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</table>

QARA 5451  Statistical Quality Control  3
Concentration-Specific Courses  6
Electives  3
Non-Didactic Course
PS 9996  Master's Research  6
Total Credit Hours  36

Culminating Events:

Thesis:
The M.S. thesis is an original, theoretical, and/or empirical study that contributes to the field of Pharmacodynamics. It should expand existing knowledge and demonstrate the student's knowledge of research methods and a mastery of her/his primary area of interest. The thesis should be rigorously investigated; uphold the ethics and standards of the pharmaceutical sciences; demonstrate an understanding of the relationship between the primary area of interest and the broader field of pharmacodynamics; and be prepared for publication in a professional journal.

Students who are preparing to defend their thesis should confirm a time and date with their advisor and register with the Administrative Assistant at least 15 days before the defense is to be scheduled. The Administrative Assistant arranges the time, date, and room within two working days and forwards to the student the appropriate forms. Once approved, the public announcement of the defense is posted.

The Thesis Examining Committee evaluates the student's ability to express verbally her/his research question, methodological approach, primary findings, and implications. This committee is comprised of at least three Graduate Faculty members. Two members, including the Chair, must be members of the Graduate Faculty of the School of Pharmacy. The Thesis Examining Committee votes to pass or fail the thesis and the defense at the conclusion of the public presentation.

Contacts

Program Web Address:
http://pharmacy.temple.edu/academics/graduate-program-thesis-based-ms-and-phd-degrees

Department Information:
Dept. of Pharmaceutical Sciences Office of Graduate Studies
School of Pharmacy
3307 N. Broad Street, Suite 528
Philadelphia, PA 19140
tusgrad@temple.edu
215-707-4972

Mailing Address for Application Materials:
Office of Graduate Studies
School of Pharmacy
3307 N. Broad Street, Suite 528 (602-00)
Philadelphia, PA 19140

Department Contacts:

Admissions:
Sophon Din
tusgrad@temple.edu

Program Coordinator:
Pharmaceutical Sciences/
Medicinal Chemistry, Ph.D.

SCHOOL OF PHARMACY (http://www.temple.edu/pharmacy)

About the Program

The School of Pharmacy offers a graduate program leading to the M.S. and to the Ph.D. in Pharmaceutical Sciences with a concentration in Medicinal Chemistry. The program is designed to prepare students for positions in the pharmaceutical industry, government agencies, and faculty positions in schools of pharmacy.

Time Limit for Degree Completion: 7 years

Campus Location: Health Sciences Center, Main

Some courses may be offered at the Fort Washington campus. Research must be carried out at the Health Sciences Center campus under the supervision of an advisor who is a member of the Graduate Faculty.

Full-Time/Part-Time Status: Full-time status is recommended due to the nature of ongoing research.

Interdisciplinary Study: The program encourages interdisciplinary coursework, research, and collaborations among faculty and students with interests in Biochemistry, Molecular Modeling, Organic Chemistry, and Pharmacology.

Areas of Specialization: The focus is Medicinal and Pharmaceutical Chemistry, including design and synthesis of ligands for cholinergic receptors and ligands for retinoic acid receptors, novel anticonvulsants, and the development of analytical methodologies.

Job Prospects: The program is primarily concentrated to provide research scientists for the pharmaceutical industry, government agencies, and faculty positions in schools of pharmacy.

Non-Matriculated Student Policy: Non-matriculated students are able to take up to 9 credits before formal application must be made to the program.

Financing Opportunities: Support options include University fellowships, teaching assistantships, and research assistantships. Recipients are determined on a competitive basis during the admission process and receive a stipend and full tuition remission (up to 9 credits per term).

A Research Assistant (RA) is expected to spend 20 hours per week engaged in research and is assigned to a specific faculty member. The research subjects are determined by consultation between the student and her/his research advisor.

Applications should include a statement of previous teaching and/or research experience, areas of interest, and future goals; official transcripts; and a curriculum vitae. The department attempts to make offers of assistantships on or before May 1. June 1 is the final date for acceptance or declination of department offers. Applications should be directed to:

Temple University School of Pharmacy
3307 North Broad Street, Suite 528
Philadelphia, PA 19140

Admission Requirements and Deadlines

Application Deadline:
Fall: December 15

All applications are evaluated together after the deadline.

APPLY ONLINE to this graduate program (http://www.temple.edu/apply/common/appcheck.asp).

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members familiar with the applicant's academic competence and professionals in a supervisory position.

Coursework Required for Admission Consideration: It is recommended that applicants complete the courses (or their equivalent as determined by the School of Pharmacy) taken in obtaining a B.S. in Biochemistry, Chemistry (preferably Organic Chemistry), or Pharmacy before entering the program.

Master's Degree in Discipline/Related Discipline: A master's degree is not required.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree in Biochemistry, Chemistry (preferably Organic Chemistry), or Pharmacy is required.

Applicants who earned a degree at a non-U.S. institution must submit an equivalency evaluation of their transcript(s) through a third-party provider, either World Education Services (WES) (https://www.wes.org) or Educational Credential Evaluators (ECE) (https://www.ece.org).

Statement of Goals: In approximately 500 to 1,000 words, state your specific interest in Temple's program, your research goals, your future career goals, and your academic and research achievements.

Standardized Test Scores:
GRE: Required. Scores should be in the 65th percentile or above.

For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:

TOEFL: 85 iBT or 563 PBT minimum
IELTS: 7.0 academic
PT Academic: 58 minimum

Resume: Submission of a current resume is encouraged.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 46

Required Courses:

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<td>Physical Methods in Organic Chemistry</td>
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<td>PS 8002</td>
<td>Pharmaceutical Analysis</td>
<td>3</td>
</tr>
<tr>
<td>PS 8009</td>
<td>Advanced Medicinal Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>PS 8051</td>
<td>Seminar in Pharm Science</td>
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</tr>
<tr>
<td>PS 8121</td>
<td>Department of Pharmaceutical Sciences Seminar Series</td>
<td>1</td>
</tr>
<tr>
<td>PS 8131</td>
<td>Principles of Biochemistry</td>
<td>4</td>
</tr>
<tr>
<td>PS 8403</td>
<td>Advanced Pharmacogenomics</td>
<td>2</td>
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<tr>
<td>Advanced Organic Chemistry</td>
<td>3</td>
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<td>Statistics</td>
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<td>Electives 1</td>
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Non-Didactic Courses

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<td>PS 9994</td>
<td>Preliminary Examination Preparation</td>
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</tr>
<tr>
<td>PS 9998</td>
<td>Pre-Dissertation Research</td>
<td>3</td>
</tr>
<tr>
<td>PS 9999</td>
<td>Dissertation Research</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours 46

Electives should be taken primarily in Chemistry, although courses in Pharmacology and Computer and Information Science are also permissible.

Culminating Events:

Preliminary Examination:
The purpose of the preliminary examination is to demonstrate critical and interpretive knowledge in specialized areas of the discipline. The examination evaluates the student's ability to apply specific research foci to anticipated practical problems in the field. Students who accumulate 40 didactic credits are eligible to take the exam.

The preliminary exam consists of two sections. The first is a written section consisting of questions from the student’s Doctoral Advisory Committee (DAC). Each member of the DAC submits a question and then judges the quality of the student’s answer based on criteria such as accuracy, thoroughness, and originality. They then share that score and their rationale for it with the other members of the DAC. The evaluators look for a breadth and depth of understanding of concepts in the areas being tested; application of that knowledge; and the ability to write technical prose in a manner consistent with scientists in the field. The second section of the preliminary exam includes the preparation of a research proposal approved by the DAC and a 30-minute oral summary of the proposal followed by an oral defense of the proposal.

Students who are preparing to take their preliminary examination should confirm a time and date with the Director of Graduate Studies and register with the Administrative Assistant in the Office of Graduate Studies. The student and Director receive confirmation of the time, date, room, and proctor for the examination.

Dissertation Proposal:
The dissertation proposal demonstrates the student's knowledge of and ability to conduct the proposed research. The proposal should consist of:

- the context and background surrounding a particular research problem;
- an exhaustive survey and review of literature related to the problem; and
- a detailed methodological plan for investigating the problem.

The proposal should be completed and approved no more than one year after completing the preliminary exam. Upon approval, a doctoral student is promoted to a Ph.D. candidate, and a timeline for completing the investigation and writing process is established.

Dissertation:
The doctoral dissertation is an original, theoretical, and/or empirical study that makes a significant contribution to the field. It should expand existing knowledge and demonstrate the student's knowledge of research methods and a mastery of her/his primary area of interest. The dissertation should be rigorously investigated; uphold the ethics and standards of the field; demonstrate an understanding of the relationship between the primary area of interest and the broader field; and be prepared for publication in a professional journal.

The Dissertation Examining Committee (DEC) is formed to oversee the student's doctoral research. It is charged with evaluating the student's dissertation and oral defense, including the student's ability to express verbally her/his research question, methodological approach, primary findings, and implications. The DEC, which includes the members of the DAC, is comprised of at least three Graduate Faculty members. Two members, including the Chair, must be from the School of Pharmacy. The Chair is responsible for overseeing and guiding the student's progress, coordinating the responses of the Committee members, and informing the student of her/his academic progress. At least one additional Graduate Faculty member from outside the School of Pharmacy must be included on the DEC. This outside examiner should be identified no later than the beginning of the academic term in which the student will defend the dissertation. The DEC members vote to pass or fail the dissertation and defense at the conclusion of the public presentation.

Committee compositions must be approved by the departmental graduate committee. If a student needs to change a member of a committee, the new member must be approved by the departmental graduate committee and by the Graduate School. The changes must be documented with the Administrative Assistant and the Graduate School using the "Request for Change in Dissertation Committee" form, found in TPortal under the Tools tab within “University Forms.”

Students who are preparing to defend their dissertation should confirm a time and date with their DEC and register with the Office of Graduate Studies at least 15 days before the defense is to be scheduled. The Office of Graduate Studies arranges the time, date, and room and forwards to the student the appropriate forms. After the Administrative Assistant has made the arrangements, the student must send the Graduate School a completed "Announcement of Dissertation Defense" form, found in TPortal under the Tools tab within “University Forms,” at least 10 days before the defense date. The department posts announcements for the defense.
Contacts

Program Web Address:
http://pharmacy.temple.edu/academics/graduate-program-thesis-based-ms-and-phd-degrees

Department Information:
Dept. of Pharmaceutical Sciences Office of Graduate Studies
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Program Coordinator:
Daniel J. Canney, Ph.D.
tuspgrad@temple.edu

Graduate Chairperson:
Daniel J. Canney, Ph.D
phscgrad@temple.edu

Department Chairperson:
Robert Raffa, Ph.D.
robert.raffa@temple.edu

Pharmaceutical Sciences/
Pharmaceutics, Ph.D.

SCHOOL OF PHARMACY (http://www.temple.edu/pharmacy)

About the Program

The School of Pharmacy offers graduate program leading to the M.S. and to the Ph.D. in Pharmaceutical Sciences with a concentration in Pharmaceutics. The program is designed to prepare students for positions in the pharmaceutical industry, government agencies, and faculty positions in schools of pharmacy.

Time Limit for Degree Completion: 7 years

Campus Location: Health Sciences Center, Fort Washington

Some courses may be offered at Main campus. Research must be carried out at the Health Sciences Center campus under the supervision of an advisor who is a member of the Graduate Faculty.

Full-Time/Part-Time Status: The Ph.D. program is considered full-time. A minimum residency of one year is required during which the student must work full-time in a laboratory at the School of Pharmacy under the direction of a faculty member in the department.

Interdisciplinary Study: The program encourages interdisciplinary coursework, research, and collaborations among faculty and students with interests in Biochemistry, Molecular Modeling, Organic Chemistry, and Pharmacology.

Areas of Specialization: Faculty members specialize and offer graduate coursework in controlled release dosage forms, drug metabolism, encapsulation, mechanisms of drug action, pharmaceutical analysis, pharmacokinetics, and solid dosage forms.

Job Prospects: The program is primarily concentrated to provide research scientists for the pharmaceutical industry, government agencies, and faculty positions in schools of pharmacy.

Non-Matriculated Student Policy: Non-matriculated students are able to take up to 9 credits before formal application must be made to the program.

Financing Opportunities: Support options include University fellowships, teaching assistantships, and research assistantships. Recipients are determined on a competitive basis during the admission process and receive a stipend and full tuition remission (up to 9 credits per term).

The principal duties of a Teaching Assistant (TA) include assisting faculty members in laboratory instruction, preparing apparatus or materials for Pharm.D. students, conducting recitations, grading quizzes and reports, and proctoring exams. TAs are expected to work 20 hours per week.

A Research Assistant (RA) is expected to spend 20 hours per week engaged in research and is assigned to a specific faculty member. The research subjects are determined by consultation between the student and her/his research advisor.

Applications should include a statement of previous teaching and/or research experience, areas of interest, and future goals; official transcripts; and a curriculum vitae. The department attempts to make offers of assistantships on or before May 1. June 1 is the final date for acceptance or declination of department offers. Applications should be directed to:

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3307 North Broad Street, Suite 528
Philadelphia, PA 19140

Admission Requirements and Deadlines

Application Deadline:
Fall: December 15

All applications are evaluated together after the deadline.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members familiar with the applicant’s academic competence and professionals in a supervisory position.
Coursework Required for Admission Consideration: Before entering the program, it is recommended that applicants complete courses (or their equivalent as determined by the School of Pharmacy) in Mathematics, at least through differential equations, and Physical Chemistry.

Master's Degree in Discipline/Related Discipline: A master's degree is not required.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree in Pharmacy, Biology, Biochemistry, Chemistry, Engineering, or a related discipline is required.

Applicants who earned a degree at a non-U.S. institution must submit an equivalency evaluation of their transcript(s) through a third-party provider, either World Education Services (WES) (https://www.wes.org) or Educational Credential Evaluators (ECE) (https://www.ece.org).

Statement of Goals: In approximately 500 to 1,000 words, state your specific interest in Temple's program, your research goals, your future career goals, and your academic and research achievements.

Standardized Test Scores:
GRE: Required. Scores should be in the 65th percentile or above.

For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:

TOEFL: 85 iBT or 563 PBT minimum
IELTS: 7.0 academic
PT Academic: 58 minimum

Resume: Submission of a current resume is encouraged.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 46

Required Courses:

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<td>Core Courses</td>
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<td>PS 8002</td>
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<td>PS 8051</td>
<td>Seminar in Pharm Science</td>
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<td>Total Credit Hours</td>
<td>46</td>
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Culminating Events:

Preliminary Examination:
The purpose of the preliminary examination is to demonstrate critical and interpretive knowledge in specialized areas of the discipline. The examination evaluates the student's ability to apply specific research foci to anticipated practical problems in the field. Students who accumulate 40 didactic credits are eligible to take the exam.

The preliminary exam consists of two sections. The first is a written section consisting of questions from the student's Doctoral Advisory Committee (DAC). Each member of the DAC submits a question and then judges the quality of the student's answer based on criteria such as accuracy, thoroughness, and originality. They then share that score and their rationale for it with the other members of the DAC. The evaluators look for a breadth and depth of understanding of concepts in the areas being tested; application of that knowledge; and the ability to write technical prose in a manner consistent with scientists in the field. The second section of the preliminary exam includes the preparation of a research proposal approved by the DAC and a 30-minute oral summary of the proposal followed by an oral defense of the proposal.

Students who are preparing to take their preliminary examination should confirm a time and date with the Director of Graduate Studies and register with the Administrative Assistant in the Office of Graduate Studies. The student and Director receive confirmation of the time, date, room, and proctor for the examination.

Dissertation Proposal:
The dissertation proposal demonstrates the student's knowledge of and ability to conduct the proposed research. The proposal should consist of:

• the context and background surrounding a particular research problem;
• an exhaustive survey and review of literature related to the problem; and
• a detailed methodological plan for investigating the problem.

The proposal should be completed and approved no more than one year after completing the preliminary exam. Upon approval, a doctoral student is promoted to a Ph.D. candidate, and a timeline for completing the investigation and writing process are established.

Dissertation:
The doctoral dissertation is an original, theoretical, and/or empirical study that makes a significant contribution to the field. It should expand existing knowledge and demonstrate the student's knowledge of research methods and a mastery of her/his primary area of interest. The dissertation should be rigorously investigated; uphold the ethics and standards of the field; demonstrate an understanding of the relationship between the primary area of interest and the broader field; and be prepared for publication in a professional journal.

The Dissertation Examining Committee (DEC) is formed to oversee the student's doctoral research. It is charged with evaluating the student's dissertation and oral defense, including the student's ability to express verbally her/his research question, methodological approach, primary findings, and implications. The DEC, which includes the members of the DAC, is comprised of at least three Graduate Faculty members. Two members, including the Chair, must be from the School of Pharmacy. The Chair is responsible for overseeing and guiding the student's progress, coordinating the responses of the Committee members, and informing the student of her/his academic progress. At least one additional Graduate Faculty member from outside the School of Pharmacy must be included on the DEC. This outside examiner should be identified no later than
the beginning of the academic term in which the student will defend the dissertation. The DEC members vote to pass or fail the dissertation and the defense at the conclusion of the public presentation.

Committee compositions must be approved by the departmental graduate committee. If a student needs to change a member of a committee, the new member must be approved by the departmental graduate committee and by the Graduate School. The changes must be documented with the Administrative Assistant and the Graduate School using the "Request for Change in Dissertation Committee" form, found in TUportal under the Tools tab within "University Forms."

Students who are preparing to defend their dissertation should confirm a time and date with their DEC and register with the Office of Graduate Studies at least 15 days before the defense is to be scheduled. The Office of Graduate Studies arranges the time, date, and room and forwards to the student the appropriate forms. After the Administrative Assistant has made the arrangements, the student must send the Graduate School a completed "Announcement of Dissertation Defense" form, found in TUportal under the Tools tab within "University Forms," at least 10 days before the defense date. The department posts announcements for the defense.

Contacts

Program Web Address:
http://pharmacy.temple.edu/academics/graduate-program-thesis-based-ms-and-phd-degrees

Department Information:
Dept. of Pharmaceutical Sciences Office of Graduate Studies
School of Pharmacy
3307 N. Broad Street, Suite 528
Philadelphia, PA 19140
tuspgrad@temple.edu
215-707-4972

Mailing Address for Application Materials:
Office of Graduate Studies
School of Pharmacy
3307 N. Broad Street, Suite 528 (602-00)
Philadelphia, PA 19140

Department Contacts:
Admissions:
Sophon Din
tuspgrad@temple.edu

Program Coordinator:
Daniel J. Canney, Ph.D.
tuspgrad@temple.edu

Graduate Chairperson:
Daniel J. Canney, Ph.D.
phscgrad@temple.edu

Pharmaceutical Sciences/
Pharmacodynamics, Ph.D.

SCHOOL OF PHARMACY (http://www.temple.edu/pharmacy)

About the Program
The School of Pharmacy offers a graduate program leading to the M.S. and to the Ph.D. in Pharmaceutical Sciences with a concentration in Pharmacodynamics. The program is designed to prepare students for positions in the pharmaceutical industry, government agencies, and faculty positions in various departments performing biomedical research.

Time Limit for Degree Completion: 7 years

Campus Location: Health Sciences Center, Main

Some courses may be offered at the Fort Washington campus. Research must be carried out at the Health Sciences Center campus under the supervision of an advisor who is a member of the Graduate Faculty.

Full-Time/Part-Time Status: Full-time status is recommended due to the nature of ongoing research.

Interdisciplinary Study: The program encourages interdisciplinary coursework, research, and collaborations among faculty and students with interests in Biochemistry, Molecular Modeling, Organic Chemistry, and Pharmacology.

Areas of Specialization: The Pharmacodynamics concentration involves the study of integrated drug transport and mechanism of drug action research.

Job Prospects: Graduates generally accept employment offers shortly before or after defending their dissertation. Job opportunities for graduates include positions as postdoctoral researchers, scientists in the pharmaceutical industry, and faculty members in a variety of departments involved in biomedical research.

Non-Matriculated Student Policy: Non-matriculated students are able to take up to 9 credits before formal application must be made to the program.

Financing Opportunities: Support options include University fellowships, teaching assistantships, and research assistantships. Recipients are determined on a competitive basis during the admission process and receive a stipend and full tuition remission (up to 9 credits per term).

The principal duties of a Teaching Assistant (TA) include assisting faculty members in laboratory instruction, preparing apparatus or materials for Pharm.D. students, conducting recitations, grading quizzes and reports, and proctoring exams. TAs are expected to work 20 hours per week.

A Research Assistant (RA) is expected to spend 20 hours per week engaged in research and is assigned to a specific faculty member. The research subjects are determined by consultation between the student and her/his research advisor.

Applications should include a statement of previous teaching and/or research experience, areas of interest, and future goals; official transcripts; and a curriculum vitae. The department attempts to make offers of assistantships on or before May 1. June 1 is the final date for
acceptance or declination of department offers. Applications should be directed to:

Temple University School of Pharmacy
3307 North Broad Street, Suite 528
Philadelphia, PA 19140

Admission Requirements and Deadlines

Application Deadline:

Fall: December 15

All applications are evaluated together after the deadline.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members familiar with the applicant's academic competence and professionals in a supervisory position.

Coursework Required for Admission Consideration: It is recommended that applicants complete the courses (or their equivalent as determined by the School of Pharmacy) taken in obtaining a B.S. degree in Biochemistry, Biology, Pharmacology, Pharmacy, or Psychology.

Master's Degree in Discipline/Related Discipline: A master's degree is not required.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree in Biochemistry, Biology, Pharmacology, Pharmacy, or Psychology is required.

Applicants who earned a degree at a non-U.S. institution must submit an equivalency evaluation of their transcript(s) through a third-party provider, either World Education Services (WES) (https://www.wes.org) or Educational Credential Evaluators (ECE) (https://www.ece.org).

Statement of Goals: In approximately 500 to 1,000 words, state your specific interest in Temple's program, your research goals, your future career goals, and your academic and research achievements.

Standardized Test Scores:

GRE: Required. Scores should be in the 65th percentile or above.

For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:

TOEFL: 85 iBT or 563 PBT minimum

IELTS: 7.0 academic

PT Academic: 58 minimum

Resume: Submission of a current resume is encouraged.

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 46

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
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<td>PS 8002</td>
<td>Pharmaceutical Analysis</td>
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<tr>
<td>PS 8051</td>
<td>Seminar in Pharm Science</td>
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<td>PS 8121</td>
<td>Department of Pharmaceutical Sciences Seminar Series</td>
<td>1</td>
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<tr>
<td>PS 8131</td>
<td>Principles of Biochemistry</td>
<td>4</td>
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<td>PS 8403</td>
<td>Advanced Pharmacogenomics</td>
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Statistics 3

Electives 26

Non-Didactic Courses 6

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<thead>
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<th>Code</th>
<th>Title</th>
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<tr>
<td>PS 9994</td>
<td>Preliminary Examination Preparation</td>
</tr>
<tr>
<td>PS 9998</td>
<td>Pre-Dissertation Research</td>
</tr>
<tr>
<td>PS 9999</td>
<td>Dissertation Research</td>
</tr>
</tbody>
</table>

Total Credit Hours 46

Culminating Events:

Preliminary Examination:

The purpose of the preliminary examination is to demonstrate critical and interpretive knowledge in specialized areas of the discipline. The examination evaluates the student’s ability to apply specific research foci to anticipated practical problems in the field. Students who accumulate 40 didactic credits are eligible to take the exam.

The preliminary exam consists of two sections. The first is a written section consisting of questions from the student’s Doctoral Advisory Committee (DAC). Each member of the DAC submits a question and then judges the quality of the student's answer based on criteria such as accuracy, thoroughness, and originality. They then share that score and their rationale for it with the other members of the DAC. The evaluators look for a breadth and depth of understanding of concepts in the areas being tested; application of that knowledge; and the ability to write technical prose in a manner consistent with scientists in the field. The second section of the preliminary exam includes the preparation of a research proposal approved by the DAC and a 30-minute oral summary of the proposal followed by an oral defense of the proposal.

Students who are preparing to take their preliminary examination should confirm a time and date with the Director of Graduate Studies and register with the Administrative Assistant in the Office of Graduate Studies. The student and Director receive confirmation of the time, date, room, and proctor for the examination.

Dissertation Proposal:

The dissertation proposal demonstrates the student’s knowledge of and ability to conduct the proposed research. The proposal should consist of:

- the context and background surrounding a particular research problem;
- an exhaustive survey and review of literature related to the problem; and
- a detailed methodological plan for investigating the problem.

The proposal should be completed and approved no more than one year after completing the preliminary exam. Upon approval, a doctoral student is promoted to a Ph.D. candidate, and a timeline for completing the investigation and writing process are established.

Dissertation:
The doctoral dissertation is an original, theoretical, and/or empirical study that makes a significant contribution to the field. It should expand existing knowledge and demonstrate the student's knowledge of research methods and a mastery of her/his primary area of interest. The dissertation should be rigorously investigated; uphold the ethics and standards of the field; demonstrate an understanding of the relationship between the primary area of interest and the broader field; and be prepared for publication in a professional journal.

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Contacts

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http://pharmacy.temple.edu/academics/graduate-program-thesis-based-ms-and-phd-degrees

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Dept. of Pharmaceutical Sciences Office of Graduate Studies
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3307 N. Broad Street, Suite 528
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3307 N. Broad Street, Suite 528 (602-00)

Philadelphia, PA 19140

Department Contacts:
Admissions:
Sophon Din
tuspgrad@temple.edu

Program Coordinator:
Daniel J. Canney, Ph.D.
tuspgrad@temple.edu

Graduate Chairperson:
Daniel J. Canney, Ph.D.
phscgrad@temple.edu

Department Chairperson:
Robert Raffa, Ph.D.
robert.raffa@temple.edu

Regulatory Affairs and Quality Assurance, M.S.

SCHOOL OF PHARMACY (http://www.temple.edu/pharmacy)

About the Program

Since its establishment in 1968, Temple's Regulatory Affairs and Quality Assurance program has played a significant role in training pharmaceutical company personnel in regulations and quality principles and practices. Its courses meet the career requirements of professionals in the pharmaceutical and related industries. The program provides students with a broad knowledge of the industry, fostering their professional development and preparing them for supervisory and managerial positions.

Time Limit for Degree Completion: 5 years

Campus Location: Fort Washington

The M.S. is offered in its entirety on evenings and weekends at Fort Washington.

Full-Time/Part-Time Status: Students complete the degree program through classes offered after 4:30 p.m. The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: The program fosters interdisciplinary study with the pharmaceutical sciences and technology.

Affiliation(s): Each year the program sponsors a major conference with the pharmaceutical industry and the U.S. FDA, focusing on current regulatory and quality issues.

Ranking: Temple's master's degree in Regulatory Affairs and Quality Assurance is widely recognized as the oldest, most comprehensive, and most respected academic program of its type in the world.

Areas of Specialization: This is a non-thesis M.S. program. Faculty members are specialists in many areas, such as auditing; clinical trial management and operations; global regulation; IND/NDA submissions; manufacturing; pharmaceutical, food, and device law; pharmaceutical labeling and advertising; quality assurance; regulatory affairs; and validation.
Job Prospects: Students find positions in all areas of the pharmaceutical industry, including big Pharmaceutical Research and Manufacturers of America (PhRMA) and generic companies, biotechnology, clinical research organizations, and medical devices and packaging. Employment is also found with government agencies, including the FDA, and healthcare providers.

Non-Matriculated Student Policy: Students may complete a maximum of 9 credits before they must formally apply for admission. Before taking any electives, new students are strongly encouraged to take courses: QARA 5459 Drug Development and QARA 5592 Food and Drug Law.

Financing Opportunities: Students in the Regulatory Affairs and Quality Assurance program are generally working professionals. Therefore, funding for assistantships and academic internships is limited.

Admission Requirements and Deadlines

Application Deadline:
Fall: March 1; December 15 international
Spring: November 1; September 1 international
Summer I: March 1; January 15 international

Applications are processed throughout the year. Late applications may be considered for admission. However, the entire application packet must be received by the Regulatory Affairs and Quality Assurance Graduate Studies Office before it is reviewed by the Admissions Committee. Applicants are responsible for making sure that all materials have been received.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: One letter should be obtained from the candidate’s direct supervisor, indicating that the supervisor is aware of and supports the candidate’s involvement in Temple’s Regulatory Affairs and Quality Assurance graduate program.

Bachelor’s Degree in Discipline/Related Discipline: A B.S. degree in Biochemistry, Biology, Chemistry, Physics, or a health-related discipline is required.

Applicants who earned a degree at a non-U.S. institution must submit an equivalency evaluation of their transcript(s) through a third-party provider, either World Education Services (WES) (https://www.wes.org) or Educational Credential Evaluators (ECE) (https://www.ece.org).

Statement of Goals: Describe your experience in the pharmaceutical or related industries, indicating how the Regulatory Affairs and Quality Assurance M.S. program will help you achieve your career objectives.

Standardized Test Scores:
For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:

TOEFL: 85 iBT or 563 PBT minimum
IELTS: 6.5 academic
PT Academic: 58 minimum
Resume: Current resume required.

Transfer Credit: Students may transfer a maximum of 6 credits into the M.S. program. These credits must be similar or identical to courses offered in Temple’s Regulatory Affairs and Quality Assurance program. In addition, the student must request the transfer credits at the time of application to the M.S. program, providing copies of course syllabi. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 36

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>QARA 5459</td>
<td>Drug Development</td>
<td>3</td>
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<tr>
<td>QARA 5494</td>
<td>Quality Audit</td>
<td>3</td>
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<tr>
<td>or QARA 5495</td>
<td>Investigational New Drug/New Drug Application Submissions</td>
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<tr>
<td>QARA 5592</td>
<td>Food and Drug Law</td>
<td>3</td>
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<tr>
<td>Good Practices Course</td>
<td>3</td>
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Select one of the following:

<table>
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<tr>
<th>Code</th>
<th>Title</th>
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<tr>
<td>QARA 5476</td>
<td>Good Laboratory Practices</td>
</tr>
<tr>
<td>QARA 5477</td>
<td>Good Manufacturing Practices</td>
</tr>
<tr>
<td>QARA 5479</td>
<td>Advanced Good Manufacturing Practices - Defining “c”</td>
</tr>
<tr>
<td>QARA 5536</td>
<td>Good Clinical Practices</td>
</tr>
</tbody>
</table>

Electives 1 24

Total Credit Hours 36

1 Upon completion of the four required courses, students may concentrate their electives in either Regulatory Affairs or in Quality Assurance. Alternately, students may select courses from both disciplines to broaden their portfolio.

Culminating Events:
This program has no culminating events beyond completion of coursework.

Contacts

Program Web Address:
http://www.temple.edu/pharmacy_qara/

Department Information:
Regulatory Affairs and Quality Assurance Graduate Program
425 Commerce Drive, Suite 175
Fort Washington, PA 19034-2713
qara@temple.edu
267-468-8560

Mailing Address for Application Materials:
Regulatory Affairs and Quality Assurance Graduate Program
425 Commerce Drive, Suite 175
Fort Washington, PA 19034-2713
Graduate Certificate: Advanced Regulatory Affairs and Quality Assurance

SCHOOL OF PHARMACY (http://www.temple.edu/pharmacy)

About the Certificate
The post-master’s certificate in Advanced Regulatory Affairs and Quality Assurance is designed to allow individuals holding a master’s degree in Regulatory Affairs and Quality Assurance to pursue advanced coursework from a broad array of topics and receive formal recognition for their work. The certificate program is also open to those holding an advanced degree in the sciences who have worked extensively in the pharmaceutical industry and seek a cadre of advanced courses in Regulatory Affairs or Quality Assurance to be compliant with FDA regulations on training records.

Admission Requirements and Deadlines

Application Deadline:
Fall and Spring admissions are on a rolling basis. Interested students should contact the School of Pharmacy for permission to enroll in coursework.

Master’s Degree in Discipline/Related Discipline: Applicants completing the program to earn a post-master's certificate must hold a master's degree in Regulatory Affairs and Quality Assurance from Temple University or a peer institution. An advanced degree in the sciences is also accepted.

Bachelor’s Degree in Discipline/Related Discipline: Applicants completing the program to earn a graduate certificate must hold a B.S. degree in Biochemistry, Biology, Chemistry, Physics, or a health-related discipline.

Other: Applicants who did not earn their master’s degree from Temple University’s School of Pharmacy must formally apply to the certificate program. They must provide proof of their advanced degree, including a transcript and documentation of the titles and descriptions of previous RA/QA courses taken. A summary of their industry experience in the form of a CV or resume is also required.

Certificate Requirements

Number of Credits Required to Complete the Certificate: 12-15, depending on the institution from which and/or the subject in which the master's degree was earned.

Required Courses:

Select four or five from the following approved courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>PS 5501</td>
<td>Development of Sterile Products</td>
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<td>PS 8005</td>
<td>Pharmaceutical Biotechnology</td>
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<tr>
<td>PS 8111</td>
<td>Introduction to Toxicology</td>
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<tr>
<td>PS 8403</td>
<td>Advanced Pharmacogenomics</td>
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<tr>
<td>QARA 5000</td>
<td>Special Topics in Regulatory Affairs and Quality Assurance</td>
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<tr>
<td>QARA 5401</td>
<td>Fundamentals of Pharmacology and Pharmacokinetics</td>
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<tr>
<td>QARA 5408</td>
<td>Pharmacoconomics</td>
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<tr>
<td>QARA 5451</td>
<td>Statistical Quality Control</td>
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<tr>
<td>QARA 5458</td>
<td>Global Biopharmaceutical Industry</td>
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<td>QARA 5469</td>
<td>Pharmaceutical Laboratory Quality Systems and Operations</td>
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<tr>
<td>QARA 5471</td>
<td>Biotechnology: Bioprocess Basics</td>
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<td>QARA 5472</td>
<td>Pharmaceutical Marketing</td>
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<tr>
<td>QARA 5473</td>
<td>Generic Drug Regulation (ANDAs)</td>
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<tr>
<td>QARA 5474</td>
<td>Process Validation</td>
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<tr>
<td>QARA 5476</td>
<td>Good Laboratory Practices</td>
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<td>QARA 5477</td>
<td>Good Manufacturing Practices</td>
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<tr>
<td>QARA 5478</td>
<td>High Purity Water Systems</td>
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<tr>
<td>QARA 5479</td>
<td>Advanced Good Manufacturing Practices - Defining &quot;c&quot;</td>
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<tr>
<td>QARA 5491</td>
<td>Pre-Approval Inspections</td>
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<tr>
<td>QARA 5492</td>
<td>Production of Sterile Parenterals</td>
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<tr>
<td>QARA 5493</td>
<td>Sterilization Processes</td>
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<td>QARA 5494</td>
<td>Quality Audit</td>
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<td>QARA 5495</td>
<td>Investigational New Drug/New Drug Application Submissions</td>
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<tr>
<td>QARA 5496</td>
<td>Regulation of Medical Devices: Compliance</td>
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<td>QARA 5497</td>
<td>Statistics for Clinical Trials</td>
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<td>QARA 5498</td>
<td>Computerized System Validation</td>
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<td>QARA 5499</td>
<td>Drug Dosage Forms</td>
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<td>QARA 5502</td>
<td>Regulation of Medical Devices: Submissions</td>
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<td>QARA 5505</td>
<td>Global Regulation of Medical Devices</td>
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<td>QARA 5506</td>
<td>Environmental Law and Regulation (EPA)</td>
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<td>QARA 5508</td>
<td>Good Pharmacovigilance Operations</td>
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<td>QARA 5511</td>
<td>Advanced Audit Workshop of Quality Systems</td>
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<tr>
<td>QARA 5512</td>
<td>Microbiological Concepts in Pharmaceutical Manufacturing</td>
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<td>QARA 5513</td>
<td>Active Pharmaceutical Ingredients (APIs)</td>
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<tr>
<td>QARA 5515</td>
<td>Biologics/Biosimilars: A Regulatory Overview</td>
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<td>QARA 5516</td>
<td>Cleaning Validation</td>
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<td>QARA 5532</td>
<td>Global Labeling Regulation: Principles and Practices</td>
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<td>QARA 5533</td>
<td>Requirements for Product Labeling and Advertising</td>
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<td>QARA 5534</td>
<td>Regulatory Aspects of Biomedical/Technical Communication</td>
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<tr>
<td>QARA 5535</td>
<td>Advanced Topics in Labeling Development</td>
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<tr>
<td>QARA 5536</td>
<td>Good Clinical Practices</td>
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<tr>
<td>QARA 5537</td>
<td>Clinical Trial Management</td>
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<td>QARA 5538</td>
<td>Clinical Drug Safety and Pharmacovigilance</td>
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<td>QARA 5539</td>
<td>Global Clinical Drug Development</td>
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<tr>
<td>QARA 5541</td>
<td>Pharmaceutical Packaging: Technology and Regulation</td>
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<td>QARA 5543</td>
<td>Good Distribution Practices</td>
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<td>QARA 5544</td>
<td>Regulatory Intelligence</td>
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<tr>
<td>QARA 5545</td>
<td>Post Approval Changes (PAC)</td>
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<tr>
<td>QARA 5546</td>
<td>Global Pharmaceutical Excipient Regulation</td>
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<td>QARA 5547</td>
<td>Project Management for Clinical Trials</td>
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<tr>
<td>QARA 5571</td>
<td>Post-Marketing Safety Surveillance</td>
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<td>QARA 5572</td>
<td>Vaccines: Regulatory Affairs and Quality Assurance Issues</td>
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<td>QARA 5573</td>
<td>Pharmacoepidemiology</td>
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<tr>
<td>QARA 5574</td>
<td>Pharmaceutical Quality Management Systems</td>
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<tr>
<td>QARA 5575</td>
<td>Regulatory Sciences: Managing the Guidelines to Quality</td>
<td></td>
</tr>
<tr>
<td>QARA 5576</td>
<td>Global CMC Issues and Regulatory Dossier</td>
<td></td>
</tr>
<tr>
<td>QARA 5577</td>
<td>Global CMC Regulatory Compliance for Biopharmaceuticals and Other Biologics</td>
<td></td>
</tr>
<tr>
<td>QARA 5578</td>
<td>Benefit Risk Management and Safety Signaling of Healthcare Products</td>
<td></td>
</tr>
<tr>
<td>QARA 5579</td>
<td>Regulatory and Legal Basis of Pharmacovigilance</td>
<td></td>
</tr>
<tr>
<td>QARA 5591</td>
<td>Global Regulatory Affairs</td>
<td></td>
</tr>
<tr>
<td>QARA 5594</td>
<td>Regulation of Dietary Supplements and Functional Foods</td>
<td></td>
</tr>
<tr>
<td>QARA 5595</td>
<td>Food Law</td>
<td></td>
</tr>
<tr>
<td>QARA 5596</td>
<td>Food Labeling and Regulatory Affairs</td>
<td></td>
</tr>
<tr>
<td>QARA 5599</td>
<td>Clinical Aspects of Pharmaceutical Medicine</td>
<td></td>
</tr>
<tr>
<td>QARA 5601</td>
<td>Industry Interactions with FDA/Health Authorities</td>
<td></td>
</tr>
<tr>
<td>QARA 5602</td>
<td>Clinical Aspects of Pharmaceutical Medicine II</td>
<td></td>
</tr>
<tr>
<td>QARA 5605</td>
<td>Advanced Topics in Food and Drug Law</td>
<td></td>
</tr>
<tr>
<td>QARA 5611</td>
<td>Regulation of Advertising and Promotions</td>
<td></td>
</tr>
<tr>
<td>QARA 5612</td>
<td>Bioethics for Pharmaceutical Professionals</td>
<td></td>
</tr>
<tr>
<td>QARA 5615</td>
<td>Project Management for Pharmaceutical Professionals</td>
<td></td>
</tr>
<tr>
<td>QARA 5618</td>
<td>Clinical Data Management (CDM)</td>
<td></td>
</tr>
<tr>
<td>QARA 5622</td>
<td>Unit Operations</td>
<td></td>
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<tr>
<td>QARA 5625</td>
<td>Process Analytical Technology (PAT)</td>
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<tr>
<td>QARA 5627</td>
<td>Statistical Design of Experiments (DOE)</td>
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<tr>
<td>QARA 5629</td>
<td>Process Monitoring</td>
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<tr>
<td>QARA 5655</td>
<td>Analytical Chemistry in Pharmaceutical Laboratories</td>
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<tr>
<td>QARA 8002</td>
<td>Pharmaceutical Analysis</td>
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<tr>
<td>QARA 8003</td>
<td>Pharmaceutical Manufacturing I: Preformulation/ Formulation</td>
<td></td>
</tr>
<tr>
<td>QARA 8004</td>
<td>Pharmaceutical Manufacturing II: Solid Dosage Forms</td>
<td></td>
</tr>
<tr>
<td>QARA 8006</td>
<td>Physical Pharmacy I</td>
<td></td>
</tr>
<tr>
<td>QARA 8007</td>
<td>Applied Biopharmaceutics</td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours: **12-15**

Students who earned their M.S. in Regulatory Affairs and Quality Assurance from Temple University's School of Pharmacy are permitted to select any four 3-credit courses not previously completed as part of their M.S. curriculum. Those who earned a master's degree in Regulatory Affairs and Quality Assurance from a peer institution, as well as those holding an advanced degree in the sciences, are required to take five 3-credit courses.

## Contacts

### Certificate Program Web Address:

http://www.temple.edu/pharmacy_qara/certificates.htm

### Department Information:

Regulatory Affairs and Quality Assurance Graduate Program  
425 Commerce Drive, Suite 175  
Fort Washington, PA 19034-2713  
qara@temple.edu  
267-468-8560

### Mailing Address for Application Materials:

Regulatory Affairs and Quality Assurance Graduate Program  
425 Commerce Drive, Suite 175  
Fort Washington, PA 19034-2713

### Department Contacts:

**Admissions:**  
Wendy Lebing, MALD, M.S.  
Program Coordinator  
quara@temple.edu  
267-468-8560

### Graduate Certificate:  
Biopharmaceutical Manufacturing and Regulatory Affairs

**SCHOOL OF PHARMACY** (http://www.temple.edu/pharmacy)

### About the Certificate

The graduate certificate in Biopharmaceutical Manufacturing and Regulatory Affairs is intended to enable Regulatory Affairs and Quality Assurance (RAQA) students to receive formal recognition for studying the highly specialized, rapidly growing field of pharmaceutical biotechnology, which includes the manufacturing techniques and applicable regulations used in the development and production of biotechnology products. The first biopharmaceutical product, namely, recombinant human insulin, was approved in 1982. Since then, products derived through biotechnology have provided advances in medicine that include therapeutic monoclonal antibodies, cancer vaccines, cytokines, antisense technology, interference RNA, and growth factors. The regulatory framework required for the approval of biotechnology-derived products (or biologics) is lengthy, rigorous, and highly complicated. This certificate delves into the...
complex regulations governing the development, manufacturing, and distribution of such products.

Through completion of the certificate, whether post-baccalaureate or post-master’s, students understand the following:

- the pharmaceutical science behind the discovery of biotechnology products, including biologics, biosimilars, and biopharmaceuticals;
- the requirements for sourcing and testing materials used in the production of biotechnology products;
- the technologies and unique considerations associated with the manufacturing and distribution of biotechnology products;
- the applicable regulations involved with biotechnology products; and
- the processes used to sterilize biotechnology products, including regulatory requirements for thermal, gaseous, radiation, filtration, and aseptic processing.

Time Limit for Certificate Completion: 3 years

Campus Location: Fort Washington

Full-Time/Part-Time Status: The graduate certificate may be completed on a part-time basis.

Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits of coursework before applying to the graduate certificate program.

Admission Requirements and Deadlines

Application Deadline: Fall and Spring admissions are on a rolling basis. Interested students should contact the School of Pharmacy for permission to enroll in coursework.

Master’s Degree in Discipline/Related Discipline: Applicants completing the program to earn a post-master’s certificate must hold a master’s degree in a Pharmacy-related field.

Bachelor’s Degree in Discipline/Related Discipline: Applicants completing the program to earn a post-baccalaureate certificate must hold a B.S. degree in Biochemistry, Biology, Chemistry, Physics, or a health-related discipline.

Certificate Requirements

Number of Credits Required to Complete the Certificate: 15

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>QARA 5471</td>
<td>Biotechnology: Bioprocess Basics</td>
<td>3</td>
</tr>
<tr>
<td>QARA 5475</td>
<td>Pharmaceutical Biotechnology</td>
<td>3</td>
</tr>
<tr>
<td>QARA 5515</td>
<td>Biologics/Biosimilars: A Regulatory Overview</td>
<td>3</td>
</tr>
<tr>
<td>QARA 5577</td>
<td>Global CMC Regulatory Compliance for Biopharmaceuticals and Other Biologics</td>
<td>3</td>
</tr>
</tbody>
</table>

Elective

Select one from the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>QARA 5492</td>
<td>Production of Sterile Parenterals</td>
</tr>
<tr>
<td>QARA 5493</td>
<td>Sterilization Processes</td>
</tr>
<tr>
<td>QARA 5501</td>
<td>Development of Sterile Products</td>
</tr>
</tbody>
</table>

Total Credit Hours 15

Contacts

Certificate Program Web Address:

http://www.temple.edu/pharmacy_qara/certificates.htm

Department Information:

Regulatory Affairs and Quality Assurance Graduate Program
425 Commerce Drive, Suite 175
Fort Washington, PA 19034-2713
qara@temple.edu
267-468-8560

Mailing Address for Application Materials:

Regulatory Affairs and Quality Assurance Graduate Program
425 Commerce Drive, Suite 175
Fort Washington, PA 19034-2713

Department Contacts:

Admissions:
Wendy Lebing, MALD, M.S.
Program Coordinator
qara@temple.edu
267-468-8560

Graduate Certificate: Food Regulatory Affairs and Quality Assurance

SCHOOL OF PHARMACY (http://www.temple.edu/pharmacy)

About the Certificate

The graduate certificate in Food Regulatory Affairs and Quality Assurance is intended to enable Regulatory Affairs and Quality Assurance (RAQA) students to receive formal recognition for studying food regulation and quality practices, which expands their regulatory knowledge. The certificate is also designed for individuals working in Philadelphia’s large food industry so they can earn credentials in this highly important and rapidly expanding field. As the name “Food and Drug Administration” (FDA) implies, numerous parallels exist between the regulations and quality practices of drug and food products. Since the 1990s, employees from Philadelphia’s food industry have been engaged in the RAQA graduate program, either taking individual courses or pursuing the M.S. degree. Then, in 2011, the Food Safety and Modernization Act (FSMA) encompassed some of the most sweeping reforms in food safety laws in more than 70 years, shifting the focus of food safety from responding to contamination to preventing it.

Through completion of the certificate, whether post-baccalaureate or post-master’s, students become:

- knowledgeable and conversant in key regulatory practices that prepare them for supervisory and managerial positions in the food
industry or better prepare them for positions in the pharmaceutical industry with food-related products;

- fluent in discussing the basics of food quality practices, including good manufacturing practices (GMPs) and preventive control and hazard/risk analysis;
- knowledgeable about the legal and regulatory requirements involved in a food company's processing activities;
- capable of identifying the key regulatory agencies (FDA, EPA, USDA) involved in food quality assurance and regulation, being familiar with their roles, responsibilities, and missions; and
- fluent in knowing where to find the latest FDA regulatory changes in the food industry so they can respond quickly to new regulatory and quality trends and developments.

Time Limit for Certificate Completion: 2 years

Campus Location: Fort Washington

Full-Time/Part-Time Status: The graduate certificate may be completed on a part-time basis.

Job Prospects: Those completing the certificate gain the knowledge and skills to prepare them to address the laws and regulations set forth in FSMA. Graduates are at an advantage when pursuing an FDA career in food inspection or employment with food manufacturers. They are also prepared to work with the medical foods of the RAQA industry, such as baby formula, dietary supplements, nutraceuticals, and vitamins.

Non-Matriculated Student Policy: The graduate certificate program may be completed on a non-matriculated basis.

Admission Requirements and Deadlines

Application Deadline: Fall and Spring admissions are on a rolling basis. Interested students should contact the School of Pharmacy for permission to enroll in coursework.

Master's Degree in Discipline/Related Discipline: Applicants completing the program to earn a post-master's certificate must hold a master's degree in a Pharmacy-related field.

Bachelor's Degree in Discipline/Related Discipline: Applicants completing the program to earn a post-baccalaureate certificate must hold a B.S. degree in Biochemistry, Biology, Chemistry, Physics, or a health-related discipline.

Certificate Requirements

Number of Credits Required to Complete the Certificate: 9

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>QARA 5595</td>
<td>Food Law</td>
<td>3</td>
</tr>
<tr>
<td>QARA 5596</td>
<td>Food Labeling and Regulatory Affairs</td>
<td>3</td>
</tr>
<tr>
<td>QARA 5597</td>
<td>Food Good Manufacturing Processes</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Total Credit Hours</td>
<td>9</td>
</tr>
</tbody>
</table>

1 Upon completion of the certificate, students who choose to pursue additional study in food issues are recommended to take QARA 5594 Regulation of Dietary Supplements and Functional Foods (3 s.h.).

Contacts

Certificate Program Web Address:
http://www.temple.edu/pharmacy_qara/certificates.htm

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Fort Washington, PA 19034-2713

Department Contacts:

Admissions:
Wendy Lebing, MALD, M.S.
Program Coordinator
qara@temple.edu
267-468-8560

Graduate Certificate: Pharmaceutical Labeling, Advertising and Promotions

SCHOOL OF PHARMACY (http://www.temple.edu/pharmacy)

About the Certificate

The graduate certificate in Pharmaceutical Labeling, Advertising and Promotions is intended to produce well-qualified experts with knowledge of the U.S. and global regulations governing the labeling, advertising, and promotions of pharmaceuticals and related products. Coursework addresses the complexity of the PI (Package Insert), showing how it must delineate every aspect of the product, from its dosage form to its unique storage requirements and dosage information. Topics include how the PI must be incorporated into print and internet advertising and promotions for products and also the requirements for television ads. Differences in the regulations in key world markets are also discussed.

The Pharmaceutical Labeling, Advertising and Promotions certificate is offered at both the post-baccalaureate and post-master's levels.

Time Limit for Certificate Completion: 4 years

Campus Location: Fort Washington and online

Full-Time/Part-Time Status: The graduate certificate may be completed on a part-time basis.

Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits of coursework before applying to the post-baccalaureate
certificate program. The post-master’s certificate cannot be taken on a non-matriculated basis.

Admission Requirements and Deadlines

Application Deadline:

Fall and Spring admissions are on a rolling basis.


Master’s Degree in Discipline/Related Discipline: Applicants completing the program to earn a post-master’s certificate must hold a master's degree in Regulatory Affairs and Quality Assurance.

Bachelor’s Degree in Discipline/Related Discipline: Applicants completing the program to earn a post-baccalaureate certificate must hold a B.S. degree in Biochemistry, Biology, Chemistry, Physics, or a health-related discipline.

Other: Applicants who did not earn their master’s degree from Temple University's School of Pharmacy must have sufficient industry experience and familiarity with the basic tenets of regulatory affairs and quality assurance to pursue the post-master’s certificate. As part of the application, these applicants must include:

- a letter of request to the Assistant Dean of Regulatory Affairs and Quality Assurance indicating the courses to be pursued and citing the applicant's industry experience;
- a copy of their resume; and
- a photocopy of their final transcript from the institution where the master's or doctoral degree was earned.

Certificate Requirements

Number of Credits Required to Complete the Certificate: 12-15, depending on the origin of the master's degree

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Courses</td>
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<tr>
<td>QARA 5533</td>
<td>Requirements for Product Labeling and Advertising</td>
<td>3</td>
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<tr>
<td>QARA 5592</td>
<td>Food and Drug Law</td>
<td>3</td>
</tr>
<tr>
<td>QARA 5611</td>
<td>Regulation of Advertising and Promotions</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3-6</td>
<td></td>
</tr>
</tbody>
</table>

Select course(s) from the following:

QARA 5507 | Regulation of Non-Prescription Healthcare Products                   |
QARA 5532 | Global Labeling Regulation: Principles and Practices                 |
QARA 5535 | Advanced Topics in Labeling Development                               |

Total Credit Hours 12-15

1 If QARA 5592 was not taken as part of the student's master's program, it is required for the post-master's certificate program as it is a prerequisite for QARA 5533.

2 Students in the post-baccalaureate certificate program take one elective to fulfill 12 credits. Graduates who earned their M.S. in Regulatory Affairs and Quality Assurance at Temple University are expected to have taken QARA 5592 as part of the M.S. program and, therefore, take two electives to complete 12 credits. Graduates who earned an advanced degree at a peer institution are required to take two electives in addition to QARA 5592 to complete 15 credits to earn the certificate.

Contacts


Department Information:

Regulatory Affairs and Quality Assurance Graduate Program
425 Commerce Drive, Suite 175
Fort Washington, PA 19034-2713
qara@temple.edu
267-468-8560

Mailing Address for Application Materials:

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425 Commerce Drive, Suite 175
Fort Washington, PA 19034-2713

Department Contacts:

Admissions:
Wendy Lebing, MALD, M.S.
Program Coordinator
qara@temple.edu
267-468-8560

Graduate Certificate: Sterile Process Manufacturing

SCHOOL OF PHARMACY (http://www.temple.edu/pharmacy)

About the Certificate

The graduate certificate in Sterile Process Manufacturing is intended to enable Regulatory Affairs and Quality Assurance (RAQA) students to receive formal recognition for studying the techniques and applicable regulations used in the development and manufacture of sterile products. Sterile products include a wide range of commonly used products, such as intradermal (ID), intramuscular (IM), intravenous (IV), and subcutaneous (SC) products, vaccines, and products administered directly into different parts of the body, such as arteries (intra-arterial), bones (intrasternal), heart (intracardiac), or the spinal canal (intrathecal). Sterile products must be manufactured using aseptic (or free from contamination) methods wherein the drug substance, excipients, and vehicle (e.g., saline or water for injection) are combined in a container, such as a syringe. Generally, the final dosage form cannot be sterilized
at the end of the manufacturing process, since the drug substance would become degraded. Therefore, sterility must be ensured during the manufacturing process by utilizing sterile filtration, microbial controls, and facility design, all of which must follow regulatory guidelines.

Through completion of the certificate, whether post-baccalaureate or post-master’s, students understand the following:

- routes and types of administration of sterile products;
- regulations, processes, and unique considerations involved with sterile parenteral products;
- manufacturing and facility requirements for the design and production of sterile products;
- validation and compliance specifications for sterile products;
- methods used for sterilization, including regulatory requirements for thermal, gaseous, radiation, filtration, and aseptic processing.

Time Limit for Certificate Completion: 3 years

Campus Location: Fort Washington

Full-Time/Part-Time Status: The graduate certificate may be completed on a part-time basis.

Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits of coursework before applying to the graduate certificate program.

Admission Requirements and Deadlines

Application Deadline: 
Fall and Spring admissions are on a rolling basis. Interested students should contact the School of Pharmacy for permission to enroll in coursework.

Master’s Degree in Discipline/Related Discipline: Applicants completing the program to earn a post-master’s certificate must hold a master’s degree in a Pharmacy-related field.

Bachelor’s Degree in Discipline/Related Discipline: Applicants completing the program to earn a post-baccalaureate certificate must hold a B.S. degree in Biochemistry, Biology, Chemistry, Physics, or a health-related discipline.

Certificate Requirements

Number of Credits Required to Complete the Certificate: 12

Required Courses:

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td>QARA 5492</td>
<td>Production of Sterile Parenterals</td>
<td>3</td>
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<tr>
<td>or QARA 5493</td>
<td>Sterilization Processes</td>
<td></td>
</tr>
<tr>
<td>QARA 5512</td>
<td>Microbiological Concepts in Pharmaceutical Manufacturing</td>
<td>3</td>
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Electives: 
Select two from the following:

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<tr>
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<th>Credit Hours</th>
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<tr>
<td>QARA 5492</td>
<td>Production of Sterile Parenterals ¹</td>
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<tr>
<td>QARA 5493</td>
<td>Sterilization Processes ¹</td>
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</tr>
<tr>
<td>QARA 5501</td>
<td>Development of Sterile Products</td>
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</tr>
</tbody>
</table>

Contacts

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Department Contacts:
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Program Coordinator
qara@temple.edu
267-468-8560

Vaccines: Regulatory Affairs and Quality Assurance Issues

Total Credit Hours 12

¹ Course may be selected as an elective only if not taken as a core course above.
College of Public Health

The College of Public Health is a global leader in the discovery, dissemination, and integration of health-related research and practice. We prepare future generations of professionals through an intellectual environment that incorporates interdisciplinary collaboration, critical thinking, and innovation to instill a commitment to ethical practice and lifelong learning. Exemplary research, teaching, and service are informed by our engagement with professional and community, regional, national, and global partners.

The College of Public Health engages in exciting, innovative research and supports talented, committed researchers. Investigations focus on medical interventions, social and behavioral inquiries, and animal and basic science. Inquiries are frequently interdisciplinary, crossing departmental and collegial lines, and draw on resources from across the University. The college's research mission entails:

- Increasing faculty productivity in grants and published research;
- Encouraging faculty to seek research funds creatively, from such non-governmental sources as corporations and foundations;
- Promoting collaborative research;
- Developing a research infrastructure supported by best practices and outstanding staff;
- Creating students' awareness of faculty research and opportunities for research assistantships;
- Providing research opportunities for students; and
- Ensuring sufficient support to train faculty, students, administrators, and staff in the uses of new technologies.

The College of Public Health is also committed to excellence in fieldwork and clinical education. We believe that academic preparation must be complemented with a well-designed and mentored real-world experience that transforms classroom and laboratory learning into a dynamic, field-based demonstration of professional attitudes, skills, and abilities. Our students benefit from the college's location in a metropolitan area filled with diverse and highly regarded health care, human services, and other non-medical agencies promoting health of individuals and communities. Our network of partnering agencies includes top-rated hospitals and rehabilitation centers, wellness clinics, state and federal government agencies, public and private schools, community health and human services agencies, research centers, and private practice offices. Field/clinical education can also begin on campus at clinics and research centers operated by departments in the College of Public Health, through placements with intercollegiate athletics, and at Temple University Hospital.

As noted, graduate students in many of the College of Public Health's degree programs engage in required clinical/field education experiences at facilities both on and off the University's campuses. Many of these placements may require the student to have personal health insurance. Additionally, many require a criminal background check, Act 33/34 clearances, and perhaps a drug screen. Failure to maintain personal health insurance or the results of background clearances may limit and potentially eliminate placement options for students. This, in turn, can result in an inability to meet graduation requirements. The college cannot ensure clinical field placements if a student fails to meet the requirements or maintain health insurance. Additionally, conviction of a misdemeanor, felony, or felonious or illegal act may prevent a student from becoming credentialed and/or licensed to practice in certain professions. Applicants are encouraged to review the requirements for the particular program in which they are interested, as well as the licensure/credentialing rules in the state(s) in which they are interested in working to review their eligibility.

In Fall 2015, the College of Public Health introduced a common College Core course requirement for all incoming graduate students. The course, HRPR 5001 Current and Emerging Issues in Public Health and Health Professions, is completely online and designed such that students can complete the modules at their own pace over the course of their degree program. Tuition is not charged for the course since it carries no credit. However, it is a required pass/fail course, and students will not be eligible for graduation unless the course is completed. The course requires graduate students to complete a set of six learning modules that address core elements of health, including guiding principles, practices, and guidelines. Students then have the option to select an additional six modules from a menu of modules currently 12 in number while new modules are being developed. Each module includes a video presentation, PowerPoint slides, additional resources, and a short quiz. A minimum grade of 80% on each module is required to pass the course. Program directors and faculty advisors work closely with students to explain the modules, discuss appropriate timing for their completion, and monitor progress towards completion before graduation.

Ultimately, our diverse population of students and highly recognized faculty seek to enhance the quality of life for all.

Programs

Degree Programs and Select Certificates

- Applied Biostatistics, M.P.H. (p. 662)
- Athletic Training, M.S.A.T. (p. 665)
- Athletic Training, D.A.T. (p. 667)
- Clinical Research and Translational Medicine, M.S. (p. 669)
- Communication Sciences and Disorders, Ph.D. (p. 671)
- Environmental Health, M.P.H. (p. 672)
- Environmental Health, M.S. (p. 673)
- Epidemiology, M.P.H. (p. 673)
- Epidemiology, M.S. (p. 676)
- Epidemiology, Ph.D. (p. 678)
- Health Informatics, M.S. (p. 681)
- Health Policy, Ph.D. (p. 683)
- Health Policy and Management, M.P.H. (p. 688)
- Kinesiology/Athletic Training, M.S. (p. 691)
- Kinesiology/Integrative Exercise Physiology, M.S. (p. 693)
- Kinesiology/Psychology of Movement, M.S. (p. 695)
- Kinesiology/Athletic Training, Ph.D. (p. 695)
- Kinesiology/Integrative Exercise Physiology, Ph.D. (p. 698)
- Kinesiology/Psychology of Movement, Ph.D. (p. 700)
- Neuromotor Science, M.S. (p. 700)
- Neuromotor Science, Ph.D. (p. 702)
- Nursing, D.N.P. (p. 704)
- Occupational Therapy, M.O.T. (p. 708)
- Occupational Therapy, O.T.D. (p. 710)
- Physical Therapy, D.P.T. (p. 712)
- Recreational Therapy, M.S. (p. 715)
- Social and Behavioral Sciences, M.P.H. (p. 718)
- Social and Behavioral Sciences, Ph.D. (p. 722)
• Speech, Language and Hearing Science, M.A. (p. 725)
• Graduate Certificate: Clinical Health Services Research (p. 729)
• Graduate Certificate: Health Informatics (p. 730)
• Graduate Certificate: Health Outcomes and Measurement Science (p. 731)
• Graduate Certificate: Public Health Law Research (p. 732)

Certificates
• Clinical Health Leader
• Global Health
• Health Information Privacy and Security
• Healthcare Data Analytics
• School Nurse

Graduate Faculty

William Aaronson, Associate Professor, Department of Health Services Administration and Policy, College of Public Health; Ph.D., Temple University.

Rebecca Alper, Assistant Professor, Department of Communication Sciences and Disorders, College of Public Health; Ph.D., University of Iowa.

Sarah Baurle Bass, Associate Professor, Department of Social and Behavioral Sciences, College of Public Health; Ph.D., University of Pennsylvania.

Lisa Bedore, Professor, Department of Communication Sciences and Disorders, College of Public Health; Ph.D., University at Albany, State University of New York.

Katherine Bevans, Associate Professor, Department of Rehabilitation Sciences, College of Public Health; Ph.D., Temple University.

Donna Coffman, Assistant Professor, Department of Biostatistics, College of Public Health; Ph.D., Tulane University.

Bradley N. Collins, Professor, Department of Social and Behavioral Sciences, College of Public Health; Ph.D., State University of New York at Binghamton.

Susan B. Dickey, Associate Professor, Department of Nursing, College of Public Health; Ph.D., Pennsylvania State University.

Jeffrey N. Draine, Professor, Department of Social Work, College of Public Health; Ph.D., University of Pennsylvania.

Levent Dumenci, Professor, Department of Epidemiology and Biostatistics, College of Public Health; Ph.D., Case Western Reserve University.

Karin Eyrich-Garg, Associate Professor, Department of Social Work, College of Public Health; Ph.D., Washington University in St. Louis.

Jay S. Fagan, Professor, Department of Social Work, College of Public Health; Ph.D., Columbia University.

Jennifer Orlet Fisher, Professor, Department of Social and Behavioral Sciences, College of Public Health; Ph.D., The Pennsylvania State University.

Heather M. Gardiner, Associate Professor, Department of Social and Behavioral Sciences, College of Public Health; Ph.D., State University of New York at Buffalo.

Sandra Blackwell, Assistant Professor, Department of Social Work, College of Public Health; Ph.D., University of Michigan.

Michael T. Halpern, Associate Professor, Department of Health Services Administration and Policy, College of Public Health; M.D., University of Michigan Medical School.

Chantelle Hart, Associate Professor, Department of Social and Behavioral Sciences, College of Public Health; Ph.D., Case Western Reserve University.

Shivayogi V. Hiremath, Assistant Professor, Department of Physical Therapy, College of Public Health; Ph.D., University of Pittsburgh.

Irene L. Hollin, Assistant Professor, Department of Health Services Administration and Policy, College of Public Health; Ph.D., Johns Hopkins University.

Cheryl A. Hyde, Associate Professor, Department of Social Work, College of Public Health; Ph.D., University of Michigan.

Jennifer K. Ibrahim, Associate Professor, Department of Health Services Administration and Policy, College of Public Health; Ph.D., University of California Berkeley.

Larry D. Icard, Professor, Department of Social Work, College of Public Health; Ph.D., Columbia University.

Resa M. Jones, Associate Professor, Department of Epidemiology and Biostatistics, College of Public Health; Ph.D., University of Minnesota.

Emily Keshner, Professor, Department of Physical Therapy, College of Public Health; Ed.D., Columbia University.

Julia Kobulsky, Assistant Professor, Department of Social Work, College of Public Health; Ph.D., Case Western Reserve University.

Rena A. Krakow, Associate Professor, Department of Communication Sciences and Disorders, College of Public Health; Ph.D., Yale University.

Martha Y. Kubik, Professor, Department of Nursing, College of Public Health; Ph.D., University of Minnesota.

Stephen J. Lepore, Professor, Department of Social and Behavioral Sciences, College of Public Health; Ph.D., University of California Irvine.

Edwin Maas, Associate Professor, Department of Communication Sciences and Disorders, College of Public Health; Ph.D., San Diego State University.

Nadine Martin, Professor, Department of Communication Sciences and Disorders, College of Public Health; Ph.D., Temple University.

Omar Martinez, Assistant Professor, Department of Social Work, College of Public Health; J.D., Indiana University.

Philip McAllion, Professor, Department of Social Work, College of Public Health; Ph.D., University at Albany, State University of New York.

Bryan P. McCormick, Professor, Department of Rehabilitation Sciences, College of Public Health; Ph.D., Clemson University.

Heather Murphy, Assistant Professor, Department of Epidemiology and Biostatistics, College of Public Health; Ph.D., University of Guelph.

Miguel Muñoz-Laboy, Associate Professor, Department of Social Work, College of Public Health; Dr.P.H., Columbia University.
Bernie Sue Newman, Associate Professor, Department of Social Work, College of Public Health; Ph.D., University of Pittsburgh.

Joon Young Park, Associate Professor, Department of Kinesiology, College of Public Health; Ph.D., University of Maryland Baltimore.

Elizabeth A. Pfeiffer, Associate Professor, Department of Rehabilitation Sciences, College of Public Health; Ph.D., Nova Southeastern University.

James J. Reilly, Associate Professor, Department of Communication Sciences and Disorders, College of Public Health; Ph.D., Nova Southeastern University.

Gina Tripicchio, Associate Professor, Department of Social and Behavioral Sciences, College of Public Health; Ph.D., University of North Carolina at Chapel Hill.

Nancy L. Rothman, Professor, Department of Nursing, College of Public Health; Ed.D., Temple University.

Abby Rudolph, Associate Professor, Department of Epidemiology and Biostatistics, College of Public Health; Ph.D., Johns Hopkins University.

Scott E. Rutledge, Associate Professor, Department of Social Work, College of Public Health; Ph.D., University of Washington.

Michael L. Sachs, Professor, Department of Kinesiology, College of Public Health; Ph.D., Florida State University.

Mark Salzer, Professor, Department of Social and Behavioral Sciences, College of Public Health; Ph.D., University of Illinois at Urbana-Champaign.

David B. Sarwer, Professor, Department of Social and Behavioral Sciences, College of Public Health; Ph.D., Loyola University Chicago.

Krista Schroeder, Assistant Professor, Department of Nursing, College of Public Health; Ph.D., Columbia University.

Brittany Schuler, Assistant Professor, Department of Social Work, College of Public Health; Ph.D., University of Maryland Baltimore.

Laura Siminoff, Professor, Department of Social and Behavioral Sciences, College of Public Health; Ph.D., Johns Hopkins University.

Michael R. Sitter, Professor, Department of Kinesiology, College of Public Health; Ed.D., New York University.

Gretchen A. Snethen, Associate Professor, Department of Rehabilitation Sciences, College of Public Health; Ph.D., Indiana University.

Gerry A. Stefanatos, Associate Professor, Department of Communication Sciences and Disorders, College of Public Health; D.Phil., Oxford University.

Gabriel Tajeu, Assistant Professor, Department of Health Services Administration and Policy, College of Public Health; DrPH, University of Alabama at Birmingham.

Brandie Taylor, Associate Professor, Department of Epidemiology and Biostatistics, College of Public Health; Ph.D., University of Pittsburgh.

Christopher Thompson, Assistant Professor, Department of Physical Therapy, College of Public Health; Ph.D., University of Illinois.

Carole Tucker, Associate Professor, Department of Physical Therapy, College of Public Health; Ph.D., State University of New York at Buffalo.

W. Geoffrey Wright, Associate Professor, Department of Physical Therapy, College of Public Health; Ph.D., Brandeis University.

Marsha Zibalese Crawford, Associate Professor, Department of Social Work, College of Public Health; D.S.W., Howard University.

Yaara Zisman-Ilani, Assistant Professor, Department of Rehabilitation Sciences, College of Public Health; Ph.D., University of Haifa.

**Applied Biostatistics, M.P.H.**

**College of Public Health** ([http://cph.temple.edu](http://cph.temple.edu))

**About the Program**

The Master of Public Health in Applied Biostatistics is a unique and newly developed degree in response to the growing need for master's-trained professionals with expertise in advanced biostatistical methods. The program is designed to train professionals in the field of public health who have a clear understanding of and expertise in the use, statistical application, and interpretation of large and complex data sets; of the critical importance of valid study designs and analytic methods; and of the application of hypothesis-based development and statistical programming and testing. Students complete their studies with an understanding of the fundamental critical thinking skills and statistical programming competencies necessary for public health practice and Applied Biostatistics in accordance with Council on Education for Public Health (CEPH) standards. Applied Biostatistics courses address topics such as database coding and development; environmental surveillance; multivariate biostatistics, including the use of regression models and multifactorial analysis; research design; and risk assessment and statistical analysis in human disease. Students in the Applied Biostatistics program are trained in the M.P.H. core competencies while gaining skills to use and apply multiple statistical program packages, including SPSS, SAS, STATA, and R; develop appropriate study designs based on appropriate research questions; and interpret and present study results to various audiences. Thus, the M.P.H. in Applied Biostatistics at Temple University is particularly poised to foster interdisciplinary research and train students to work in an interdisciplinary environment.

**Time Limit for Degree Completion:** 4 years

**Campus Location:** Main. Some required and elective courses are offered at satellite campuses and through online courses, but the full M.P.H. program is currently available only at Main Campus.

**Full-Time/Part-Time Status:** Students can complete the degree program through evening classes and online courses. Full-time students usually complete the program within two academic years. Part-time students usually take three to four years to complete their degree.

**Interdisciplinary Study:** Interdisciplinary M.P.H. coursework, research, and interactions are encouraged to give students as broad a perspective as possible to excel in the complex, diverse, and dynamic state of public health. Through associations with the Center for Obesity Research and Education, Center for Women's Health, and others, students have access to over 100 faculty at Temple University and additional regional scholars who are actively involved in programs, research, and teaching in public health. Further, as with the other four M.P.H. degree programs offered by
the College of Public Health, the M.P.H. in Applied Biostatistics can be undertaken as part of these nine dual M.P.H. degree programs:

- D.M.D./M.P.H. with Temple University's Kornberg School of Dentistry
- D.O./M.P.H. with the Philadelphia College of Osteopathic Medicine
- D.P.M./M.P.H. with the Temple University School of Podiatric Medicine
- J.D./M.P.H. with Temple University's Beasley School of Law
- M.D./M.P.H. with the Lewis Katz School of Medicine at Temple University
- M.H.A./M.P.H. with Temple University's Fox School of Business and Management
- M.P.P./M.P.H. with Temple University's College of Liberal Arts
- M.S. Health Informatics/M.P.H. within the Temple University College of Public Health
- M.S.W./M.P.H. with the Temple University School of Social Work

For more information, visit https://cph.temple.edu/mph/dual-degrees.

**Affiliation(s):** Locally, the program has long-standing research affiliations with The Food Trust, Fox Chase Cancer Center, Health Federation of Philadelphia, Philadelphia Department of Public Health, Public Health Management Corporation (PHMC), School District of Philadelphia, Temple University Health System, and numerous other community health agencies.

**Study Abroad:** Short-term intensive study abroad courses are offered as part of the M.P.H. program of study. These courses are offered during the Summer and are open to both undergraduate and graduate students.

**Accreditation:** The M.P.H. is fully accredited by the Council on Education for Public Health (CEPH). Achieving accreditation in 1985, Temple's M.P.H. program is one of the longest established accredited M.P.H. programs in community health in the country.

**Areas of Specialization:** The M.P.H. degree program is offered in five specialty fields of study:

- Applied Biostatistics (APBIO)
- Environmental Health (EH)
- Epidemiology (EPI)
- Health Policy and Management (HPM)
- Social and Behavioral Sciences (SBS)

In addition, a certificate in Global Health is available to all students in the M.P.H. program. Students are able to complete this transcripted concentration by utilizing their three elective courses for Global Health classes.

**Job Prospects:** Graduates with an M.P.H. in Applied Biostatistics are employed in research institutions, such as universities and medical centers; at government agencies at the federal level, such as the Centers for Disease Control and Prevention, as well as local and state governments; and in private industry, including pharmaceutical firms, in positions such as research associates and statisticians.

**Licensure:** Students who complete an M.P.H. at Temple University are eligible to sit for the Certification in Public Health (CPH) exam and the Certified Health Education Specialist (CHES) exam. For information regarding credentialing in public health, see http://www.nchec.org/.

**Non-Matriculated Student Policy:** Non-matriculated students are required to speak with an advisor before registering for classes and to obtain the permission of the professor. If accepted to the program, a maximum of three courses may be applied toward the degree program. Exceptions to this policy relate to formal certificate programs.

**Financing Opportunities:** The Graduate School awards fellowships on a competitive basis only to students with outstanding academic records who are admitted to Temple University for the Fall term. Applicants who wish to be considered for fellowships must apply no later than January 26 for consideration for the Fall term. The department's Admissions Committee nominates outstanding students for these awards, but the Graduate Board's Fellowship Committee makes all award decisions.

Limited Teaching and Research Assistantships are available in the College of Public Health. The Graduate School website details levels of support, benefits, and the terms and conditions of these types of graduate student support at http://www.temple.edu/grad/finances/. Assistantships are awarded on a term or annual basis. Students whose Fall applications are complete prior to or at the application deadline are reviewed for eligibility for Teaching Assistant (TA) positions. TAs are required to work 20 hours per week in any combination of teaching assignments made by the department and must meet the English Language Proficiency standards set by the University and the College. Students who hold Teaching or Research Assistantships are not permitted to hold other employment without the written prior approval of their advisor, the Director of Graduate Programs, and the Graduate School. To be considered for a Teaching or Research Assistantship, complete an application form that is sent to students upon admission to the M.P.H. program. The completed application must be returned to publichealth@temple.edu to be considered.

The College of Public Health has a limited number of scholarship opportunities available for M.P.H. students. Available scholarships are listed at https://cph.temple.edu/cph/giving/scholarshipsfunds. Students may also be eligible for financial support through the Office of Student Financial Services. See http://st.s.temple.edu/.

**Admission Requirements and Deadlines**

**Application Deadline:**

- **Fall:** March 1
- **Spring:** November 1

All applicants to the M.P.H. program must apply via the Centralized Application Service for Public Health (SOPHAS). The system can be accessed at https://sophas.liaisoncas.com/.

Applicants should check their application status on the SOPHAS (https://sophas.liaisoncas.com/applicant-ux) portal often and inquire directly of SOPHAS about receipt of materials. For other questions, please contact Theresa White, Senior Graduate Advisor, at theresa.white@temple.edu or 215-204-5105.

**Letters of Reference:**

**Number Required:** 3

**From Whom:** Letters of recommendation, which are completed electronically through the SOPHAS (https://sophas.liaisoncas.com/applicant-ux) system, should be obtained from college/university faculty members familiar with academic competence. If the applicant has been out of school for a long time, please ensure that letters are from professional colleagues and that they address academic abilities, such as writing and research.
Coursework Required for Admission Consideration: Applicants’ files are reviewed for undergraduate coursework in mathematics and/or statistics, social science, and writing.

Bachelor’s Degree in Discipline/Related Discipline: A baccalaureate degree is required.

Statement of Goals: In 500 to 1,000 words, address the following items:

- What are your interests in Public Health, and why are you planning to pursue an M.P.H. in Applied Biostatistics?
- What are your future career goals, and what have you done either academically or professionally to guide your interest in Public Health?
- Are there any exceptional circumstances related to previous academic performance that you would like the Admissions Committee to consider?

Standardized Test Scores:
GRE: Required. While the program takes a portfolio approach to admissions, standardized tests provide important insight into quantitative and verbal abilities. Minimum scores are 500 (old test) on both the verbal and quantitative sections or, on the new test, 153 on the verbal section and 144 on the quantitative section.

Standardized tests considered in lieu of the GRE include DAT, GMAT, MCAT, OAT, and PCAT. The LSAT, which is also considered for some M.P.H. specialties, is not accepted when applying for Applied Biostatistics or Epidemiology.

TOEFL: 79 iBT or 550 PBT minimum.

Clearances: The M.P.H. programs require students to complete clinical/field education experiences at facilities both on and off Temple University’s campuses. These placements may require criminal background checks, Act 33/34 clearances, and perhaps a drug screen. The results of these requirements may limit and potentially eliminate placement options for the student, thus resulting in her/his inability to meet graduation requirements.

Resume: Current resume or CV required.

Transfer Credit: Graduate credits from an M.P.H. program accredited by the Council on Education for Public Health (CEPH) may be transferred into the M.P.H. The credits must be equivalent to coursework offered at Temple, and the grade must be a "B" or better in order to transfer. The M.P.H. advisor approves the transfer of credits based on a review of course materials provided by the student. The maximum number of credits a student may transfer is 9.

Test Waivers: Graduates with a terminal degree from a U.S. medical school, foreign-trained physicians who have obtained licensure to practice in the United States, and those with Ph.D.’s may have the GRE requirement waived.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 45

Required Courses:

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>College Core Course</td>
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Public Health Core Courses

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<tr>
<th>Code</th>
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<tbody>
<tr>
<td>ENVH 5103</td>
<td>Environmental Health</td>
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<tr>
<td>EPBI 5002</td>
<td>Biostatistics</td>
<td>3</td>
</tr>
<tr>
<td>EPBI 5201</td>
<td>Epidemiological Research Methods I</td>
<td>3</td>
</tr>
<tr>
<td>HPM 5006</td>
<td>Political and Economic Aspects of Health</td>
<td>3</td>
</tr>
<tr>
<td>SBS 5001</td>
<td>Fundamentals of Public Health</td>
<td>3</td>
</tr>
<tr>
<td>SBS 5102</td>
<td>Theoretical Foundations of Health Behavior</td>
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Applied Biostatistics Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>EPBI 8001</td>
<td>Research Methods in Public Health</td>
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</tr>
<tr>
<td>EPBI 8012</td>
<td>Multivariable Biostatistics</td>
<td>3</td>
</tr>
<tr>
<td>EPBI 8208</td>
<td>Data Management and Analysis</td>
<td>3</td>
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Applied Biostatistics Elective

Select one of the following:

<table>
<thead>
<tr>
<th>Code</th>
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<th>Credit Hours</th>
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<tbody>
<tr>
<td>ENVI 8016</td>
<td>Human Health Risk Analysis</td>
<td></td>
</tr>
<tr>
<td>EPBI 8201</td>
<td>Structural Equation Modeling</td>
<td></td>
</tr>
<tr>
<td>EPBI 8203</td>
<td>Public Health Data Reporting</td>
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<tr>
<td>EPBI 8204</td>
<td>Multilev Mod in Int Res</td>
<td></td>
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<tr>
<td>EPBI 8207</td>
<td>Systematic Reviews</td>
<td></td>
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<tr>
<td>EPBI 9187</td>
<td>Biostat Cnslt Practicum</td>
<td></td>
</tr>
<tr>
<td>PSY 8041</td>
<td>Factor Analysis and Scaling</td>
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Electives

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>EPBI 9289</td>
<td>MPH Fieldwork I</td>
<td>3</td>
</tr>
<tr>
<td>EPBI 9389</td>
<td>MPH Fieldwork II</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours

Internship: An internship is required as part of a student's M.P.H. fieldwork.

Culminating Events:
Fieldwork Practicum:
M.P.H. fieldwork requires a student to synthesize and integrate the knowledge acquired in coursework and other learning experiences and to apply theory and principles in a situation that approximates some aspect of professional practice through an internship or practicum experience with a public health agency or under the supervision of a faculty preceptor. The M.P.H. fieldwork experience serves as the culminating event as required by the Council on Education for Public Health (CEPH), the accrediting body of all U.S. schools of public health, for completion of the Master of Public Health degree. In addition, this culminating experience provides the student with the opportunity to develop expertise in a topic area and to contribute original and independent observations to a body of knowledge.

For the culminating experience to fulfill the requirements of EPBI 9289 and EPBI 9389, M.P.H. in Applied Biostatistics students are expected to complete a fieldwork experience, which enables them to:

- Describe the roles biostatistics serves in the discipline of public health.
- Apply basic statistical methods for summarizing public health data and for inference.
- Interpret and present results from the application of basic statistical techniques.
• Distinguish among the different measurement scales and, based on these distinctions, recognize the implications for selection of appropriate statistical methods.
• Apply descriptive techniques commonly used to summarize public health data.
• Recognize concepts of probability, random variation, and commonly used statistical probability distributions.
• Apply common statistical methods for inference, including estimation, confidence intervals, and hypothesis testing.
• Use appropriate statistical software and make proper interpretations based on the output.
• Be trained in a variety of common statistical programs and languages.
• Gain hands-on experience working with existing databases while being mentored on a culminating project.
• Incorporate public health practices when conducting and interpreting analytic results.
• Describe preferred methodological alternatives to commonly used statistical methods.
• Develop written and oral presentations based on statistical analyses for both public health professionals and educated lay audiences.
• Apply basic informatics techniques with vital statistics and public health records in the description of public health characteristics and in public health research and evaluation.

A final paper is the required deliverable for the M.P.H. fieldwork requirement. Students must also demonstrate their proficiency and the application of theory and principles in the paper and demonstrate mastery of the required competencies during the oral defense. The evaluation of the M.P.H. fieldwork practicum experience, therefore, is integrated into the culminating experience requirement.

Contacts

Program Web Address:
https://cph.temple.edu/epibio/programs-offered/graduate/mph-biostatistics

Department Information:
Dept. of Epidemiology and Biostatistics
Ritter Hall Annex, 9th Floor (004-09)
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6005
publichealth@temple.edu
215-204-8726

Submission Address for Application Materials:
https://sophas.liaisoncas.com/

Department Contacts:
Admissions:
CPH Office of Admissions
cph@temple.edu
215-204-5200

Theresa White
Senior Graduate Advisor
theresawhite@temple.edu

215-204-5105

Chairperson:
Levent Dumenci, Ph.D.
Professor
LDumenci@temple.edu
215-204-4099

Athletic Training, M.S.A.T.

COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

About the Program

The Master of Science in Athletic Training (M.S.A.T.) degree is accredited by the Commission on the Accreditation of Athletic Training and prepares students to become certified athletic trainers who are at the forefront of clinical practice and education. This degree program, first offered in Summer 2016, was designed in response to the decision by the Commission on Accreditation of Athletic Training Education (CAATE), the Board of Certification, and the National Athletic Trainers’ Association to transition to an entry-level master’s degree as a requirement for certification eligibility. These groups all recognize the increasing scope of practice for athletic trainers. Individuals who are already certified athletic trainers should consider Temple’s Master of Science in Kinesiology with a concentration in Athletic Training.

Temple University established the professional M.S.A.T. degree as it phased out the B.S.A.T. As a leader in the education of future and current certified athletic trainers for more than 30 years, Temple secures this position by implementing a program ahead of the curve: the master’s degree will not be required for another four years. Temple’s geographical location, access to quality field experiences, alumni network, cutting-edge healthcare research, and dedicated faculty provide a unique and competitive educational experience.

Students graduating from the M.S.A.T. program will be able to:
• clinically apply the foundational behaviors of professional practice;
• demonstrate knowledge and competency within the content areas of athletic training, as defined by the National Athletic Trainers’ Association;
• integrate cultural competency and professionalism in global healthcare delivery;
• effectively communicate with peer healthcare professionals, patients, and athletic program administrators; and
• apply evidence-based decision making to clinical practice to increase patient outcomes and satisfaction.

Time Limit for Degree Completion: 5 years

Campus Location: Main

Full-Time/Part-Time Status: Students are expected to complete their two years of coursework on a full-time basis.

Interdisciplinary Study: Interdisciplinary study is available within the department and through other departments in the University.

Ranking: While rankings of individual programs and the department are not conducted in the profession, the programs at Temple University have excellent reputations. Historically, the Department of Kinesiology’s
Athletic Training program is one of only four in the country with bachelor's, master's, and doctoral level training.

Accreditation: The M.S.A.T. degree program is accredited by the Commission on Accreditation of Athletic Training Education (CAATE).

Areas of Specialization: The Athletic Training Practice Domains, as identified by the Board of Certification, encompass five main areas:

1. Injury/illness prevention and wellness promotion
2. Examination, assessment, and diagnosis
3. Immediate and emergency care
4. Therapeutic intervention
5. Healthcare administration and professional responsibility

As a result of the uniqueness of Temple University's College of Public Health and its research areas, areas of distinctiveness also include:

• Advanced concussion education
• Evidence-based practice components

Job Prospects: Graduates are prepared to work as entry-level clinical certified athletic trainers in various traditional settings (e.g., high schools, universities, clinics, hospitals), to apply for advanced research-based education (e.g., Ph.D.) or clinical education (e.g., D.A.T.); or to practice in an emerging area (e.g., dance, military).

Licensure: Graduates of the M.S.A.T. degree program are eligible to take the Board of Certification examination to become a certified athletic trainer. For more information on the certification process, see http://www.bocatl.org/. For more information about state regulatory processes, see http://members.nata.org/gov/state/regulatory-boards/map.cfm.

Non-Matriculated Student Policy: Non-matriculated students are welcome to take classes in the department, assuming they have the requisite knowledge to be successful in the coursework.

Financing Opportunities: For information on financial aid, contact the Office of Student Financial Services at sfs@temple.edu or 215-204-2244.

Admission Requirements and Deadlines

Application Deadline:

Summer II: June 1

All applicants to the M.S.A.T. program must apply via the Athletic Training Centralized Application Service (ATCAS). The system can be accessed at https://atcas.liaisoncas.com/.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators, typically college/university faculty or an immediate work supervisor, who can provide insight into the applicant's aptitude for graduate study. These letters are to be submitted electronically at https://atcas.liaisoncas.com/.

Coursework Required for Admission Consideration: Required coursework includes:

• Basic Health and Wellness
• Exercise Physiology
• General or Sport Psychology
• Human Anatomy and Physiology (8 credits)
• Nutrition
• Statistics

Recommended courses include:

• Chemistry
• Functional Anatomy or Functional Kinesiology
• Physics

Without exception, grades earned in prerequisite courses must be a "B" or better for consideration in an application. Prerequisites are not required to have been taken while an undergraduate. The courses may be completed at a local community college or any accredited institution of higher education. Prerequisites may be in progress at the time of the initial application, but must be completed and verified on one's ATCAS application by June 1 of the year for which application is made. Questions regarding prerequisite work should be directed to the Program Director.

Bachelor's Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of a baccalaureate degree.

Statement of Goals: A statement of one to two pages should be clearly written and well thought out.

Standardized Test Scores:

GRE: Not required, but recommended. These scores must be sent directly to ATCAS.

TOEFL: 79 iBT or 550 PBT minimum

Clearances: The Athletic Training M.S.A.T. program requires students to complete clinical/field education experiences at facilities both on and off Temple University's campuses. These placements require students to have a physical exam, immunizations with titer, and a PPD test. Many placements also require criminal background checks, Act 33/34 clearances, and perhaps a drug screen. Students may also be required to maintain personal health insurance. The results of these requirements may limit and potentially eliminate placement options for the student, thus resulting in her/his ability to meet graduation requirements. The College cannot ensure clinical field placements if the individual fails to meet the requirements or maintain health insurance. Additionally, conviction of a misdemeanor, felony, or felonious or illegal act may prevent the student from becoming certified to practice athletic training.

Resume: Current resume required, including the applicant's undergraduate GPA and relevant clinical and research experiences.

Interview: Selected applicants will be invited to interview via video chat at a mutually convenient time for the faculty interviewer(s) and the applicant.

Other: Verification of at least 50 hours of observation under a certified athletic trainer is required when applying. Details on the process are provided upon matriculation. However, students must submit the following items in preparation for the Fall practicum courses after admission to the program but prior to August 1:

• Emergency Cardiac Care Certification
• FBI Fingerprint Check
• PA Criminal Background Check
• PA Department of Public Welfare Child Abuse Clearance
• Proof of Physical Examination, including blood titers/boosters where applicable
• PPD Skin Test for Tuberculosis Exposure

Transfer Credit: At the discretion of the Program Director, relevant graduate courses taken at other accredited universities may be considered for transfer credit to the student's program. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:
Number of Credits Required to Earn the Degree: 53

Required Courses:

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Summer II</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>HRPR 5001</td>
<td>Current and Emerging Issues in Public Health and Health Professions1 0</td>
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<tr>
<td></td>
<td>KINS 5141</td>
<td>Anatomy for Orthopedic Assessment 1</td>
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<td></td>
<td>KINS 5142</td>
<td>Foundations of Athletic Training 4</td>
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<td>KINS 5143</td>
<td>Orthopedic Assessment I 3</td>
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<td>Term Credit Hours 8</td>
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<tr>
<td>Fall</td>
<td>KINS 5244</td>
<td>Orthopedic Assessment II 3</td>
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<tr>
<td></td>
<td>KINS 5245</td>
<td>General Medical Conditions in Athletic Training 3</td>
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<td>KINS 5246</td>
<td>General Medical Conditions in Athletic Training Laboratory 1</td>
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<tr>
<td></td>
<td>KINS 5247</td>
<td>Leadership for the Entry-Level Athletic Trainer 1</td>
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<tr>
<td></td>
<td>KINS 5287</td>
<td>Practicum in Athletic Training I 3</td>
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<tr>
<td></td>
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<td>Spring</td>
<td>KINS 5441</td>
<td>Therapeutic Modalities in Athletic Training 4</td>
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<tr>
<td></td>
<td>KINS 5442</td>
<td>Therapeutic Exercise in Athletic Training 4</td>
</tr>
<tr>
<td></td>
<td>KINS 5487</td>
<td>Practicum in Athletic Training II 3</td>
</tr>
<tr>
<td></td>
<td>Term Credit Hours 11</td>
<td></td>
</tr>
</tbody>
</table>

| Year 2 | Fall | KINS 5443 | Organization and Administration in Athletic Training 3 |
|        | KINS 5644 | Applied Research in Athletic Training 3 |
|        | KINS 5645 | Board of Certification Examination Preparation 2 |
|        | KINS 5687 | Practicum in Athletic Training III 3 |
|        | Term Credit Hours 11 |

| Spring | KINS 5808 | Advanced Sport Concussion 3 |
|        | KINS 5851 | Current Trends in Athletic Training 3 |
|        | KINS 5852 | Transition to Athletic Training Clinical Practice 3 |
|        | KINS 5987 | Practicum in Athletic Training IV 3 |
|        | Term Credit Hours 12 |
|        | Total Credit Hours: 53 |

1 This common College Core course is required of all incoming graduate students in the College of Public Health. It is available completely online and designed such that students can complete the modules at their own pace over the course of their degree program.

Culminating Events:
Fieldwork Practica:
Students in the M.S.A.T. program are assigned by the program to a clinical education site and preceptor (i.e., a certified athletic trainer or other healthcare professional who has successfully completed preceptor training offered by program faculty) each Fall and Spring academic term. Affiliation agreements with 32 clinical education sites and 60 approved clinical preceptors are in place.

Contacts

Program Web Address:
https://cph.temple.edu/kinesiology/programs-offered/graduate/athletic-training-msat#

Department Information:
Dept. of Kinesiology
230 Pearson Hall
1800 N. Broad Street
Philadelphia, PA 19121-3302
215-204-8707

Submission Address for Application Materials:
https://atcas.liaisoncas.com/

Department Contacts:
Admissions:
CPH Office of Admissions
cph@temple.edu
215-204-5200

Director of Athletic Training Education:
Jamie Mansell, Ph.D., LAT, ATC
jmansell@temple.edu
215-204-2153

Graduate Program Director:
Ryan Tierney, Ph.D.
rtierney@temple.edu
215-204-4001

Athletic Training, D.A.T.

COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

About the Program

The Clinical Doctorate in Athletic Training (D.A.T.) is offered online by the Department of Kinesiology in the College of Public Health at Temple University, which has been a leader in athletic training education for more than 30 years. Temple is one of only four universities historically offering athletic training degree options at the bachelor’s, master’s, and doctoral levels. Establishing the D.A.T. keeps Temple University ahead of the
curve in athletic training education as a master's becomes the entry-level degree within the next four to six years.

Offering the D.A.T. online increases student access to a unique and innovative world-class graduate education. The combination of outstanding faculty, administrative support, and online instructional resources allows Temple University to provide an excellent didactic and clinical education to an ever-growing market of students seeking quality graduate education. Students seek advising and complete/update advising contracts with the Program Director. Faculty work closely with students to select courses, develop an evidence-based project question, and complete the capstone project.

The D.A.T. is designed to enhance clinical decision making by allowing the practicing certified athletic trainer to utilize evidence-based techniques, including the identification and interpretation of current literature to improve patient outcomes. Through the clinical education components, the program enhances interdisciplinary and inter-professional relationships to mimic real-world healthcare delivery experiences.

Delivering the program exclusively online allows a greater audience to be reached and collaboration with people from diverse backgrounds and with varied experiences to occur.

The D.A.T. is geared toward advancing clinical knowledge of currently practicing certified athletic trainers. It targets those interested in the clinical application and education of advanced athletic training concepts and practice, not original research. For individuals interested in athletic training research, Temple University offers a Ph.D. in Kinesiology with a concentration in Athletic Training. The Ph.D. degree is research-based and trains professionals to be independent investigators who may go on for post-doctoral training.

**Time Limit for Degree Completion:** 5 years

**Campus Location:** Online

**Full-Time/Part-Time Status:** While not recommended, the degree program can be completed on a part-time basis. This must be approved by the Program Director.

**Ranking:** While rankings of individual programs and the department are not conducted in the profession, the programs at Temple University have excellent reputations. Historically, the Department of Kinesiology's Athletic Training program is one of only four in the country with bachelor's-, master's-, and doctoral-level training.

**Job Prospects:** As of 2015, the U.S. Bureau of Labor Statistics projects a 19% growth in athletic training until 2025, which is above the standard workforce demand rate of 11%.

**Licensure:** Applicants for and graduates of the D.A.T. program must be certified athletic trainers. This program does not allow for students to take the Board of Certification exam. Applicants interested in becoming a certified athletic trainer should consider Temple's accredited Master of Science in Athletic Training (M.S.A.T.) program.

**Non-Matriculated Student Policy:** D.A.T. coursework is available only to matriculated students.

**Financing Opportunities:** Clinical graduate externships may be available for graduate students who are certified athletic trainers.

### Admission Requirements and Deadlines

**Application Deadline:**

**Fall:** July 1

All applicants to the D.A.T. program must apply via the Centralized Application Service for Public Health (SOPHAS). The system can be accessed at https://sophas.liaisoncas.com/.

**Letters of Reference:**

**Number Required:** 3

**From Whom:** Letters of recommendation should be obtained from evaluators, typically college/university faculty or an immediate work supervisor, who can provide insight into the applicant's aptitude for graduate study.

**Coursework Required for Admission Consideration:** All applicants must be certified athletic trainers via the procedures specified by the Board of Certification.

**Master's Degree in Discipline/Related Discipline:** A master's degree is required.

**Bachelor's Degree in Discipline/Related Discipline:** All applicants must present credentials that are the equivalent of a baccalaureate degree.

**Statement of Goals:** A statement of one to two pages should be clearly written and well thought out.

**Standardized Test Scores:**

GRE: Required, except for those persons who have been practicing clinically as an athletic trainer for five years or more.

TOEFL: 79 iBT or 550 PBT minimum

**Resume:** Current resume required, including the applicant's GPA and relevant clinical and research experiences.

**Interview:** Selected applicants will be invited to interview via video chat at a mutually convenient time for the faculty interviewer(s) and the applicant.

### Program Requirements

**General Program Requirements:**

**Number of Credits Required to Earn the Degree:** 36

**Required Courses:**

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRPR 5001</td>
<td>Current and Emerging Issues in Public Health and Health Professions</td>
<td>0</td>
</tr>
<tr>
<td>KINS 8601</td>
<td>Research Appraisal and Clinical Application</td>
<td>3</td>
</tr>
<tr>
<td>KINS 8602</td>
<td>Clinical Grand Rounds I: Lower Extremity</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Term Credit Hours</td>
<td>6</td>
</tr>
</tbody>
</table>

| Spring | |
| KINS 8603 | Clinical Grand Rounds II: Upper Extremity | 3 |
KINS 8604  Evidence Based Decision Making in Athletic Training  3

Term Credit Hours  6

Summer
KINS 5808  Advanced Sport Concussion 2  3
Leadership and Ethics course  3

Term Credit Hours  6

Year 2
Fall
KINS 8344  Rehabilitation Methods and Techniques for Sports-Related Injuries  3
Elective  3

Term Credit Hours  6

Spring
KINS 5808  Advanced Sport Concussion 2  3
KINS 8343  Orthopedics in Athletic Training/Sports Medicine  3

Term Credit Hours  6

Summer
Capstone Project  6

Term Credit Hours  6

Total Credit Hours:  36

1 This common College Core course is required of all incoming graduate students in the College of Public Health. It is available completely online and designed such that students can complete the modules at their own pace over the course of their degree program.
2 KINS 5808 can be taken in either the Summer term of Year 1 or the Spring term of Year 2. An elective is taken in the term in which the student does not enroll in KINS 5808.

Culminating Events:
Capstone Project:
Students are assigned a faculty advisor to guide the Capstone Project, which must be grounded in evidence-based practice. The doctoral capstone is developed over a series of academic terms. Outcomes from the Capstone Project are expected to be incorporated into clinical practice.

Contacts
Program Web Address:
https://cph.temple.edu/kinesiology/programs-offered/graduate/athletic-training-dat#

Department Information:
Dept. of Kinesiology
230 Pearson Hall
1800 N. Broad Street
Philadelphia, PA 19121-3302
215-204-8707

Submission Address for Application Materials:
https://sophas.liaisoncas.com/

Department Contacts:
Admissions:
CPH Office of Admissions
cph@temple.edu
215-204-5200

Director of Athletic Training Education:
Jamie Mansell, Ph.D., LAT, ATC
jmansell@temple.edu
215-204-2153

Graduate Program Director:
Ryan Tierney, Ph.D.
rtierney@temple.edu
215-204-4001

Clinical Research and Translational Medicine, M.S.

COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

About the Program
The M.S. in Clinical Research and Translational Medicine program provides detailed training in conducting clinical research and understanding the complex scientific, ethical, and regulatory issues associated with clinic-based research. This degree program addresses the increased emphasis on high-quality clinical research to translate the findings of basic research into improved clinical care.

Time Limit for Degree Completion:  3 years

Campus Location: Main, with courses also offered at the Center City and Health Sciences Center campuses

Full-Time/Part-Time Status: Full-time study is highly recommended.

Interdisciplinary Study: Required and elective courses are offered through the College of Public Health, Lewis Katz School of Medicine, and other departments within the University.

Affiliation(s): The program is collaboratively offered by the College of Public Health and the Lewis Katz School of Medicine.

Accreditation: The program is accredited by the Council on Education for Public Health (CEPH).

Job Prospects: Graduates of the M.S. in Clinical Research and Translational Medicine program are prepared to be faculty members or researchers in colleges and universities or to hold research-related positions in a wide range of organizations. Graduates are employed in health systems, hospitals and clinics, public health departments, and public health and other healthcare and human service agencies. Graduates also work in pharmaceutical companies, non-profit and for-profit corporations, foundations, and consulting firms with a focus on interdisciplinary and translational clinical research.

Non-Matriculated Student Policy: Students are permitted to take up to 9 credits of coursework before matriculation. Entry into these courses as a non-matriculated student is at the instructor’s discretion. If accepted into the program, those courses may be applied toward the degree requirements. Course selection should be made in consultation with an
advisor, and students should be aware that completion of coursework does not ensure admission into the program.

Financing Opportunities: Teaching Assistants (TAs) and Research Assistants (RAs) provide 20 hours of service per week. TAs may be assigned to assist in the teaching of courses, including grading examinations and papers or teaching laboratory sections. Some TAs independently teach undergraduate courses. RAs perform supervised research activities. Both assistantships carry a minimum stipend and full tuition remission for up to 9 credits per term. Applications for assistantships are available from the Department of Epidemiology and Biostatistics and must be submitted by January 15 for the following Fall term. The application requires a statement of previous teaching and/or research experience, areas of interest, and future goals; unofficial copies of transcripts; and a curriculum vitae. The department makes offers of assistantships following admission to the program. Applications should be addressed to:

Levent Dumenci, Ph.D.
Chair, Department of Epidemiology and Biostatistics
939 Ritter Hall Annex (004-09)
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6005
LDumenci@temple.edu

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1

All applicants to the M.S. in Clinical Research and Translational Medicine program must apply via the Centralized Application Service for Public Health (SOPHAS). The system can be accessed at https://sophas.liaisoncas.com/.

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's academic abilities and talents, as well as comment on the applicant's aptitude for graduate study and research, particularly as related to translational research. Recommendations from college/university faculty members are preferred.

Coursework Required for Admission Consideration: Proficiency in statistics and basic clinical medicine is highly desired.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate in a clinical or basic science is required.

Statement of Goals: In no more than 750 words, describe important academic and research achievements; specific interests in translational research; and how your research interests relate to your ultimate career goals in clinical medicine and/or translational research.

Standardized Test Scores:

GRE: Required. Minimum scores should be at least 153 on the verbal section and 144 on the quantitative section.

TOEFL (international applicants only): 79 iBT or 550 PBT minimum.

Resume: Current resume or curriculum vitae required.

Interview: An interview may be required.

Test Waivers: Postdoctoral applicants who hold a terminal degree from an accredited institution may request a waiver of the GRE.

Program Requirements

General Program Requirements:

Total Number of Credits Required: 36

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPBI 5002</td>
<td>Biostatistics</td>
<td>3</td>
</tr>
<tr>
<td>EPBI 5201</td>
<td>Epidemiological Research Methods I</td>
<td>3</td>
</tr>
<tr>
<td>EPBI 8202</td>
<td>Epidemiological Research Methods II</td>
<td>3</td>
</tr>
<tr>
<td>EPBI 8208</td>
<td>Data Management and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>HRPR 5001</td>
<td>Current and Emerging Issues in Public Health and Health Professions</td>
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Core Courses in the College of Public Health

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<tr>
<td>BMSC 8103</td>
<td>Scientific Integrity and Bioethics</td>
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<tr>
<td>BMSC 8203</td>
<td>Bioinformatics</td>
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</tr>
<tr>
<td>BMSC 8207</td>
<td>Molecular Approaches to Research</td>
<td>2</td>
</tr>
<tr>
<td>MEDS 8010</td>
<td>Seminar Clinical Res</td>
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<tr>
<td>MEDS 8020</td>
<td>Crit Lit Clin Transi Res</td>
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<tr>
<td>MEDS 8030</td>
<td>Grant Writing: Clin Res</td>
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Electives

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<th>Code</th>
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<tr>
<td>EPBI 9996</td>
<td>Masters Res in Pub Hlth (2 terms)</td>
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</table>

Total Credit Hours 36

1 Includes HRPR 5001 Current and Emerging Issues in Public Health and Health Professions (0 s.h.), which is required for graduation.

Culminating Events:

Thesis:
The master's thesis documents the independent research of the student and demonstrates mastery of her/his primary area of interest. Thesis research is conducted under the direct supervision of academic advisors from both the College of Public Health and the Lewis Katz School of Medicine. The specific topic for research should be of current interest in the professional community and relevant to translational clinical research. After a research topic is selected, a thesis proposal is submitted describing a plan for completion of the proposed research. The student may continue the research only after the initial proposal is approved by the committee.

Contacts

Program Web Address:

https://cph.temple.edu/epibio/programs-offered/graduate/ms-clinical-translational

Department Information:

Dept. of Epidemiology and Biostatistics
Ritter Hall Annex, 9th Floor (004-09)
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6005
publichealth@temple.edu
Communication Sciences and Disorders, Ph.D.

COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

About the Program

The Ph.D. program in Communication Sciences and Disorders seeks to bring students to a level of education at which they may participate as scholars in the discipline. It is the program's objective to provide doctoral students with a base of information sufficiently broad that they understand the range of their discipline, yet deep enough in a chosen area of specialization to enable them to comfortably assume positions of leadership. The program emphasizes education in specific methods of research, appropriate to the student's area of specialization, reaching a level at which the graduate will be able to make original and valuable contributions to the knowledge of the field. A final objective is to infuse students with the spirit of scientific inquiry and wisdom in the methods and philosophy of science to place their own contributions, and the contributions of others, in a proper perspective with regard to theoretical and philosophical positions and trends. It is anticipated that graduates will contribute to the discipline as leaders and exemplars in the areas of teaching, research, administration, and clinical services.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: Students often take elective coursework outside the department in disciplines such as biostatistics, education, and psychology.

Affiliation(s): Cooperative efforts have been established with Temple University Hospital and Lewis Katz School of Medicine, the Camden School District, MossRehab, and the School District of Philadelphia.

Areas of Specialization: Areas of concentration are Speech-Language Pathology with emphases in adult language disorders, child language and literacy development and disorders, and motor speech.

Job Prospects: Graduates are prepared for careers in universities and research institutions.

Non-Matriculated Student Policy: Departmental permission is required for registration in graduate classes. A maximum of 9 credits earned as a non-matriculated student may be applied toward the degree.

Financing Opportunities: Research and Teaching Assistantships may be available. Contact the Department of Communication Sciences and Disorders to inquire.

Admission Requirements and Deadlines

Application Deadline:

Fall: January 5

All applicants to the Ph.D. program in Communication Sciences and Disorders must apply via the Centralized Application Service for Public Health (SOPHAS). The system can be accessed at https://sophas.liaisoncas.com/.

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from professors, employers, or colleagues who are able to evaluate the applicant's research potential. One letter must be from a previous professor, advisor, or research supervisor.

Coursework Required for Admission Consideration: Applicants must demonstrate coursework taken in statistics and probability.

Master's Degree in Discipline/Related Discipline: A master's degree is not required.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree in Communication Disorders, Education, Linguistics, or Psychology is required.

Statement of Goals: Approximately 500 to 1,000 words address your background, your academic and professional goals, and the fit of your interests with the program.

Standardized Test Scores:

GRE: Required. Scores on the verbal and quantitative sections are expected to fall at or above the 50th percentile.

TOEFL: 79 iBT or 550 PBT minimum.

Resume: Current resume required.

Writing Sample: A writing sample that is expository in nature, e.g., a chapter of a thesis, a convention paper, and/or a paper from senior undergraduate or master's level coursework, should be submitted.

Advanced Standing: The student's advisor recommends advanced standing to the department based on a review of prior coursework and experience. The maximum number of advanced standing credits awarded is 30.
Program Requirements

General Program Requirements:
Number of Credits Required to Earn the Degree: 45

Required Courses:

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<th>Code</th>
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<td><strong>Core Courses</strong></td>
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<tr>
<td>CSCD 5411</td>
<td>Psycholinguistics</td>
<td>3</td>
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<tr>
<td>CSCD 5730</td>
<td>Topics in Speech, Language and Hearing</td>
<td>6</td>
</tr>
<tr>
<td>PHIL 5216</td>
<td>Philosophy of Science</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Research and Statistics Courses</strong></td>
<td></td>
</tr>
<tr>
<td>EPBI 5002</td>
<td>Biostatistics</td>
<td>3</td>
</tr>
<tr>
<td>EPBI 5201</td>
<td>Epidemiological Research Methods I</td>
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<tr>
<td>EPBI 8012</td>
<td>Multivariable Biostatistics</td>
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<tr>
<td>EPBI 8212</td>
<td>Grantsmanship in Health Research</td>
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</tr>
<tr>
<td>HRPR 5999</td>
<td>Research Experience in Health Professions</td>
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<tr>
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<td>Select five courses from the following:</td>
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<tr>
<td></td>
<td>CSCD 5521</td>
<td>Foundations in Child Language Disorders</td>
</tr>
<tr>
<td></td>
<td>CSCD 8726</td>
<td>Management of Child Language Disorders</td>
</tr>
<tr>
<td></td>
<td>CSCD 8727</td>
<td>Written Language Development and Disorders</td>
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<tr>
<td></td>
<td>EPBI 8201</td>
<td>Structural Equation Modeling</td>
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<tr>
<td></td>
<td>EPBI 8204</td>
<td>Multilev Mod in Int Res</td>
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<tr>
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<td>EPBI 8208</td>
<td>Data Management and Analysis</td>
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<td>PSY 8005</td>
<td>Affective Neuroscience</td>
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<td></td>
<td>PSY 8513</td>
<td>Cognitive Development</td>
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<td><strong>Non-Didactic Courses</strong></td>
<td>6</td>
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<tr>
<td></td>
<td>CSCD 9994</td>
<td>Preliminary Examination Preparation</td>
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<tr>
<td></td>
<td>CSCD 9998</td>
<td>Pre-Dissertation Research</td>
</tr>
<tr>
<td></td>
<td>CSCD 9999</td>
<td>Dissertation Research</td>
</tr>
<tr>
<td></td>
<td><strong>Total Credit Hours</strong></td>
<td>45</td>
</tr>
</tbody>
</table>

1. Other courses may meet this requirement if approved by mentor, Ph.D. Program Director, and department chair.
2. Alternate elective courses must be approved by the Ph.D. Program Director.
3. Students enrolled in CSCD 9998 must take 2 credits each term until the dissertation proposal is approved and filed with the Graduate School.
4. Students enrolled in CSCD 9999 must take a minimum of 3 credits after approval of the proposal and be enrolled for at least 3 credits each term until the dissertation is defended and filed with the Graduate School.

Culminating Events:

**Preliminary Examination:**
The preliminary examination serves as a prospectus/proposal to the dissertation. The typical preliminary examination consists of a fully referenced introduction (20-30 pages) followed by a proposed method section that will guide the candidate’s dissertation study. In conjunction with the preliminary examination, a student must submit a journal-quality article for peer review. The student must pass the preliminary examination in no more than two attempts. The Doctoral Advisory Committee evaluates the exam on a pass/fail basis. All judgments are by committee consensus.

**Dissertation:**
The dissertation is an original study that makes a significant and publishable contribution to the field. It should demonstrate a thorough knowledge of the theoretical and empirical literature of the area of investigation. It should also be of sound and rigorous methodology. Original research of quality appropriate for publication in a first-tier national journal is expected.

Graduate School guidelines for announcing the defense are followed. Notice is given through postings, email, and listserv announcements. The defense lasts two hours.

Contacts

**Program Web Address:**
https://cph.temple.edu/commsci/programs-offered/graduate/communication-sciences-and-disorders-phd

**Department Information:**
Dept. of Communication Sciences and Disorders
110 Weiss Hall
1701 N. 13th Street
Philadelphia, PA 19122-6085
cph@temple.edu
215-204-7543

**Submission Address for Application Materials:**
https://sophas.liaisoncas.com/

**Department Contacts:**

**Admissions:**
CPH Office of Admissions
cph@temple.edu
215-204-5200

**Chairperson:**
Lisa Bedore, Ph.D.
lisa.bedore@temple.edu
215-204-7543

**Program Director:**
Jodi Reich, Ph.D.
jodi.reich@temple.edu
215-204-1821

**Environmental Health, M.P.H.**

COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

**About the Program**
This program is not accepting applications for the 2018-2019 academic year.
Environmental Health, M.S.

COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

About the Program

This program is not accepting applications for the 2018-2019 academic year.

Epidemiology, M.P.H.

COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

About the Program

The Master of Public Health in Epidemiology is a professional degree program for those students who desire to receive fundamental and applied training in the public health sciences with a focus on epidemiological study design, disease surveillance methods, bioethics of population-based research, and core biostatistical methods. This practice-oriented program prepares students to successfully work in public health and applied epidemiology agencies, including conducting disease surveillance within government public health agencies; directing community demonstration and clinical trials research; and evaluating and running screening programs and other preventative health services in the broad areas of public health practice and health policy. The program is grounded in the core M.P.H. competencies and disciplines of public health with an emphasis in epidemiologic techniques. It covers the application of epidemiological research methods with an emphasis on developing research and methodological skills and critically evaluating current epidemiological studies.

The Department of Epidemiology and Biostatistics also offers a small research-intensive M.S. in Epidemiology, which is a research-oriented degree intended for students who desire to learn the advanced concepts and methods of epidemiology and apply those concepts to a unique population-based study through the completion of a master's-level thesis project.

Time Limit for Degree Completion: 4 years

Campus Location: Main. Some required and elective courses are offered at satellite campuses and through online courses, but the full M.P.H. program is currently available only at Main Campus.

Full-Time/Part-Time Status: Students can complete the degree program through evening classes and online courses. Full-time students usually complete the program within two academic years. Part-time students usually take three to four years to complete their degree.

Interdisciplinary Study: Interdisciplinary M.P.H. coursework, research, and interactions are encouraged to give students a broad perspective as possible to excel in the complex, diverse, and dynamic state of public health. Through associations with the Center for Obesity Research and Education, Center for Women's Health, and others, students have access to over 100 faculty at Temple University and additional regional scholars who are actively involved in programs, research, and teaching in public health. Further, as with the other four M.P.H. degree programs offered by the College of Public Health, the M.P.H. in Epidemiology can be undertaken as part of these nine dual M.P.H. degree programs:

- D.M.D./M.P.H. with Temple University's Kornberg School of Dentistry
- D.O./M.P.H. with the Philadelphia College of Osteopathic Medicine
- D.P.M./M.P.H. with the Temple University School of Podiatric Medicine
- J.D./M.P.H. with Temple University's Beasley School of Law
- M.D./M.P.H. with the Lewis Katz School of Medicine at Temple University
- M.H.A./M.P.H. with Temple University's Fox School of Business and Management
- M.P.P./M.P.H. with Temple University's College of Liberal Arts
- M.S. Health Informatics/M.P.H. within the Temple University College of Public Health
- M.S.W./M.P.H. with the Temple University School of Social Work

For more information, visit https://cph.temple.edu/mph/dual-degrees.

Affiliation(s): Locally, the program has long-standing research affiliations with The Food Trust, Fox Chase Cancer Center, Health Federation of Philadelphia, Philadelphia Department of Public Health, Public Health Management Corporation (PHMC), School District of Philadelphia, Temple University Health System, and numerous other community health agencies.

Study Abroad: Short-term intensive study abroad courses are offered as part of the M.P.H. program of study. These courses are offered during the Summer and are open to both undergraduate and graduate students.

Accreditation: The M.P.H. is fully accredited by the Council on Education for Public Health (CEPH). Achieving accreditation in 1985, Temple's M.P.H. program is one of the longest established accredited M.P.H. programs in community health in the country.

Areas of Specialization: The M.P.H. degree program is offered in five specialty fields of study:

- Applied Biostatistics (APBIO)
- Environmental Health (EH)
- Epidemiology (EPI)
- Health Policy and Management (HPM)
- Social and Behavioral Sciences (SBS)

In addition, a certificate in Global Health is available to all students in the M.P.H. program. Many students in the Epidemiology M.P.H. program complete this transcripted Global Health concentration by utilizing their three elective courses for Global Health classes.

Job Prospects: Graduates with an M.P.H. in Epidemiology have positions in a wide range of health-related settings, including state and local public health departments, community-based organizations, voluntary health agencies, health maintenance organizations, pharmaceutical companies, hospitals, clinics, schools, and public health-related work sites. Graduates are employed as HIV/AIDS coordinators, infection control coordinators, project directors, program evaluation specialists, research directors, prevention specialists, environmental health specialists, protocol directors, senior health educators, and consultants. Virtually all students are placed within three to six months of graduation.

Licensure: Students who complete an M.P.H. at Temple University are eligible to sit for the Certification in Public Health (CPH) exam and the Certified Health Education Specialist (CHES) exam. For information regarding credentialing in public health, see http://www.nchec.org/.

Non-Matriculated Student Policy: Non-matriculated students are required to speak with an advisor before registering for classes and to
obtain the permission of the professor. If accepted to the program, a maximum of three courses may be applied toward the degree program. Exceptions to this policy relate to formal certificate programs.

Financing Opportunities: The Graduate School awards fellowships on a competitive basis only to students with outstanding academic records who are admitted to Temple University for the Fall term. Applicants who wish to be considered for fellowships must apply no later than January 26 for consideration for the Fall term. The department’s Admissions Committee nominates outstanding students for these awards, but the Graduate Board’s Fellowship Committee makes all award decisions.

Limited Teaching and Research Assistantships are available in the College of Public Health. The Graduate School website details levels of support, benefits, and the terms and conditions of these types of graduate student support at http://www.temple.edu/grad/finances/. Assistantships are awarded on a term or annual basis. Students whose Fall applications are complete prior to or at the application deadline are reviewed for eligibility for Teaching Assistant (TA) positions. TAs are required to work 20 hours per week in any combination of teaching assignments made by the department and must meet the English Language Proficiency standards set by the University and the College. Students who hold Teaching or Research Assistantships are not permitted to hold other employment without the written prior approval of their advisor, the Director of Graduate Programs, and the Graduate School. To be considered for a Teaching or Research Assistantship, complete an application form that is sent to students upon admission to the M.P.H. program. The completed application must be returned to publichealth@temple.edu to be considered.

The College of Public Health has a limited number of scholarship opportunities available for M.P.H. students. Available scholarships are listed at https://cph.temple.edu/cph/giving/scholarshipsfunds. Students may also be eligible for financial support through the Office of Student Financial Services. See http://sfs.temple.edu/.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

All applicants to the M.P.H. program must apply via the Centralized Application Service for Public Health (SOPHAS). The system can be accessed at https://sophas.liaisoncas.com/.

Applicants should check their application status on the SOPHAS (https://sophas.liaisoncas.com/applicant-ux) portal often and inquire directly of SOPHAS about receipt of materials. For other questions, please contact Theresa White, Senior Graduate Advisor, at theresawhite@temple.edu or 215-204-5105.

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation, which are completed electronically through the SOPHAS (https://sophas.liaisoncas.com/applicant-ux) system, should be obtained from college/university faculty members familiar with academic competence. If the applicant has been out of school for a long time, please ensure that letters are from professional colleagues and that they address academic abilities, such as writing and research.

Coursework Required for Admission Consideration: Applicants’ files are reviewed for undergraduate coursework in mathematics and/or statistics, social science, and writing.

Bachelor’s Degree in Discipline/Related Discipline: A baccalaureate degree is required.

Statement of Goals: In 500 to 1,000 words, address the following items:

- What are your interests in Public Health, and why are you planning to pursue an M.P.H. in Epidemiology?
- What are your future career goals, and what have you done either academically or professionally to guide your interest in Public Health?
- Are there any exceptional circumstances related to previous academic performance that you would like the Admissions Committee to consider?

Standardized Test Scores:

GRE: Required. While the program takes a portfolio approach to admissions, standardized tests provide important insight into quantitative and verbal abilities. Minimum scores are 500 (old test) on both the verbal and quantitative sections or, on the new test, 153 on the verbal section and 144 on the quantitative section.

Standardized tests considered in lieu of the GRE include DAT, GMAT, MCAT, OAT, and PCAT. The LSAT, which is also considered for some M.P.H. specialties, is not accepted when applying for Applied Biostatistics or Epidemiology.

TOEFL: 79 iBT or 550 PBT minimum.

Clearances: The M.P.H. programs require students to complete clinical/field education experiences at facilities both on and off Temple University’s campuses. These placements may require criminal background checks, Act 33/34 clearances, and perhaps a drug screen. Placements may also require the student to maintain personal health insurance. The results of these requirements may limit and potentially eliminate placement options for the student, thus resulting in her/his inability to meet graduation requirements.

Resume: Current resume or CV required.

Transfer Credit: Graduate credits from an M.P.H. program accredited by the Council on Education for Public Health (CEPH) may be transferred into the M.P.H. The credits must be equivalent to coursework offered at Temple, and the grade must be a “B” or better in order to transfer. The M.P.H. advisor approves the transfer of credits based on a review of course materials provided by the student. The maximum number of credits a student may transfer is 9.

Test Waivers: Graduates with a terminal degree from a U.S. medical school, foreign-trained physicians who have obtained licensure to practice in the United States, and those with Ph.D.’s may have the GRE requirement waived.

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 45

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td></td>
<td>College Core Course</td>
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Current and Emerging Issues in Public Health and Health Professions

Public Health Core Courses

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<thead>
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<tr>
<td>ENVH 5103</td>
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<tr>
<td>EPBI 5002</td>
<td>Biostatistics</td>
<td>3</td>
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<td>EPBI 5201</td>
<td>Epidemiological Research Methods I</td>
<td>3</td>
</tr>
<tr>
<td>HPM 5006</td>
<td>Political and Economic Aspects of Health</td>
<td>3</td>
</tr>
<tr>
<td>SBS 5001</td>
<td>Fundamentals of Public Health</td>
<td>3</td>
</tr>
<tr>
<td>SBS 5102</td>
<td>Theoretical Foundations of Health Behavior</td>
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Epidemiology Courses

<table>
<thead>
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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>EPBI 8012</td>
<td>Multivariable Biostatistics</td>
<td>3</td>
</tr>
<tr>
<td>EPBI 8202</td>
<td>Epidemiological Research Methods II</td>
<td>3</td>
</tr>
<tr>
<td>EPBI 8205</td>
<td>Chronic Disease Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>or EPBI 8206</td>
<td>Infectious Disease Epidemiology</td>
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Epidemiology Elective

Select one of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
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<tr>
<td>ENVH 8207</td>
<td>Environmental Epidemiology</td>
<td></td>
</tr>
<tr>
<td>EPBI 5204</td>
<td>Mental Health Epidemiology</td>
<td></td>
</tr>
<tr>
<td>EPBI 8011</td>
<td>Social Epidemiology</td>
<td></td>
</tr>
<tr>
<td>EPBI 8203</td>
<td>Public Health Data Reporting</td>
<td></td>
</tr>
<tr>
<td>EPBI 8209</td>
<td>Epidemiology of HIV/AIDS</td>
<td></td>
</tr>
<tr>
<td>SBS 8018</td>
<td>Obesity: From Genes to Junk Food</td>
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Electives

Choose three from the following:

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<td>ENVH 8207</td>
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<tr>
<td>EPBI 5204</td>
<td>Mental Health Epidemiology</td>
<td>1</td>
</tr>
<tr>
<td>EPBI 5500</td>
<td>Seminar in Current Issues in Public Health</td>
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</tr>
<tr>
<td>EPBI 8011</td>
<td>Social Epidemiology</td>
<td></td>
</tr>
<tr>
<td>EPBI 8203</td>
<td>Public Health Data Reporting</td>
<td>1</td>
</tr>
<tr>
<td>EPBI 8209</td>
<td>Epidemiology of HIV/AIDS</td>
<td>1</td>
</tr>
<tr>
<td>GUS 5071</td>
<td>Medical Geography</td>
<td></td>
</tr>
<tr>
<td>SBS 8018</td>
<td>Obesity: From Genes to Junk Food</td>
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<tr>
<td>Other elective(s) with approval</td>
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</table>

M.P.H. Fieldwork Experience

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>EPBI 9289</td>
<td>MPH Fieldwork I</td>
<td>3</td>
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<tr>
<td>EPBI 9389</td>
<td>MPH Fieldwork II</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours: 45

1 May be selected as a general elective if not taken as an Epidemiology elective above.

Internship: An internship is required as part of a student’s M.P.H. fieldwork.

Culminating Events:

Fieldwork Practicum:

The M.P.H. fieldwork requires a student to synthesize and integrate the knowledge acquired in coursework and other learning experiences and to apply theory and principles in a situation that approximates some aspect of professional practice through an internship or practicum experience with a public health agency or under the supervision of a faculty preceptor. The M.P.H. fieldwork experience serves as the culminating event as required by the Council on Education for Public Health (CEPH), the accrediting body of all U.S. schools of public health, for completion of the Master of Public Health degree. In addition, this culminating experience provides the student with the opportunity to develop expertise in a topic area and to contribute original and independent observations to a body of knowledge.

For the culminating experience to fulfill the requirements of EPBI 9289 and EPBI 9389, M.P.H. in Epidemiology students are expected to complete a fieldwork experience, which enables them to:

- Identify key sources of data for epidemiological purposes.
- Identify the principles and limitations of public health screening programs.
- Describe a public health problem in terms of magnitude, person, time, and place.
- Explain the importance of epidemiology for informing scientific, ethical, economic, and political discussion of health issues.
- Comprehend basic ethical and legal principles pertaining to the collection, maintenance, use, and dissemination of epidemiologic data.
- Apply the basic terminology and definitions of epidemiology.
- Calculate basic epidemiologic measures.
- Communicate epidemiologic information to lay and professional audiences.
- Draw appropriate inferences from epidemiologic data.
- Evaluate the strengths and limitations of epidemiologic reports.
- Apply basic statistical methods for summarizing public health data and for inference.
- Apply descriptive techniques commonly used to summarize public health data.
- Recognize concepts of probability, random variation, and commonly used statistical probability distributions.
- Distinguish the pros and cons of existing, national, publicly available data sets and surveys.
- Disseminate information through press releases, poster formats, and peer-reviewed manuscripts.

A final paper is the required deliverable for the M.P.H. fieldwork requirement. Students must also demonstrate their proficiency and the application of theory and principles in the paper and demonstrate mastery of the required competencies during the oral defense. The evaluation of the M.P.H. fieldwork practicum experience, therefore, is integrated into the culminating experience requirement.

Contacts

Program Web Address:

https://cph.temple.edu/epibio/programs-offered/graduate/mph-epidemiology

Department Information:

Dept. of Epidemiology and Biostatistics
Ritter Hall Annex, 9th Floor (004-09)
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6005
publichealth@temple.edu
215-204-8726

Submission Address for Application Materials:

https://sophas.liaisoncas.com/
Department Contacts:

Admissions:
CPH Office of Admissions
cph@temple.edu
215-204-5200

Theresa White
Senior Graduate Advisor
theresawhite@temple.edu
215-204-5105

Chairperson:
Levent Dumenci, Ph.D.
Professor
LDumenci@temple.edu
215-204-4099

Epidemiology, M.S.

COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

About the Program

The conduct of epidemiologic research involves the study of the distribution of disease and/or injury in human populations. The M.S. in Epidemiology degree is designed specifically for students interested in in-depth training and knowledge of the research techniques appropriate to conducting epidemiologic studies in a particular concentration of health research. Master’s-level epidemiologists work in applied settings conducting disease surveillance and outbreak investigations or in research settings developing and evaluating research hypotheses generated to understand the effects of behavioral, biological, environmental, and social factors on human health. Since epidemiology is the principal science underlying disease prevention and control programs, this training is also a basic component for other degree and training programs in public health and preventative medicine.

Time Limit for Degree Completion: 3 years

Campus Location: Main, with courses also offered at the Center City and Health Sciences Center campuses

Full-Time/Part-Time Status: The program is designed to accommodate both full-time and part-time students. While the time limit for degree completion is set at 3 years, full-time students are expected to earn their degree within 2 years; part-time students are granted the additional year.

Interdisciplinary Study: Students are encouraged to develop programs of study that are interdisciplinary in nature, involving coursework across departments, schools, and colleges. Research in affiliated units is encouraged.

Affiliation(s): Research affiliations of the Graduate Faculty of the M.S in Epidemiology program include the Center for Obesity Research, the Department of Nursing, the Fox Chase Cancer Center, Temple University School of Medicine and Children’s Medical Center, and Temple University School of Podiatric Medicine. Additional research opportunities at Temple include the Institute for Survey Research, the Social Science Data Library, and the Office of Institutional Research and Assessment.

Study Abroad: Temple University has campuses in Tokyo, London, and Rome where independent research can be pursued under advisement.

Accreditation: The program is accredited by the Council on Education for Public Health (CEPH).

Areas of Specialization: Areas of specialization can be dictated through the area of concentration pursued by the student in her/his thesis research.

Job Prospects: Graduates of the M.S in Epidemiology program are prepared to be faculty members or researchers in colleges and universities or to hold research-related positions in a wide range of organizations. Graduates are employed in health systems, hospitals and clinics, public health departments, and public health and other healthcare and human service agencies. Some graduates are employed by schools at the local, state, and federal levels. Graduates also work in pharmaceutical companies, non-profit and for-profit corporations, foundations, and consulting firms.

Non-Matriculated Student Policy: Students are permitted to take up to 9 credits of coursework before matriculation. If a student is accepted into the program, those courses may be applied toward the degree requirements. Course selection should be made in consultation with an advisor, and students should be aware that completion of coursework does not ensure admission into the program.

Financing Opportunities: Teaching Assistants (TAs) and Research Assistants (RAs) provide 20 hours of service per week. TAs may be assigned to assist in the teaching of courses, including grading examinations and papers or teaching laboratory sections. Some TAs independently teach undergraduate courses. RAs perform supervised research activities. Both assistantships carry a minimum stipend and full tuition remission for up to 9 credits per term. Applications for assistantships are available from the Department of Epidemiology and Biostatistics and must be submitted by January 15 for the following Fall term. The application requires a statement of previous teaching and/or research experience, areas of interest, and future goals; unofficial copies of transcripts; and a curriculum vitae. The department makes offers of assistantships following admission to the program. Applications should be addressed to:

Levent Dumenci, Ph.D.
Chair, Department of Epidemiology and Biostatistics
939 Ritter Hall Annex (004-09)
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6005
LDumenci@temple.edu

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1

All applicants to the M.S. in Epidemiology program must apply via the Centralized Application Service for Public Health (SOPHAS). The system can be accessed at https://sophas.liaisoncas.com/.

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members familiar with the applicant’s academic competence and, if appropriate, research supervisors or mentors.

Coursework Required for Admission Consideration: Proficiency in statistical programming and a minimum of 6 credits of undergraduate
quantitative and/or analytical methods (statistics, research design, etc.) are required.

**Bachelor's Degree in Discipline/Related Discipline:** A baccalaureate degree is required.

**Statement of Goals:** Approximately 500 to 1,000 words include your interest in the M.S. in Epidemiology program, your research area of interest, research goals and experience, current quantitative skills, future career goals, and academic and research achievements.

**Standardized Test Scores:**
GRE: Required. Minimum scores should be 500 (old test) on both the verbal and quantitative sections or, on the new test, 153 on the verbal section and 144 on the quantitative section.

TOEFL (international applicants only): 79 iBT or 550 PBT minimum.

**Resume:** Current resume or curriculum vitae required.

**Interview:** An interview may be required.

**Test Waivers:** Postdoctoral applicants who hold a terminal degree from an accredited institution may request a waiver of the GRE.

### Program Requirements

#### General Program Requirements:
**Number of Credits Required Beyond the Baccalaureate:** 36

#### Required Courses:

<table>
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<tr>
<th>Code</th>
<th>Title</th>
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<tr>
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<td><strong>College Core Course</strong></td>
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<tr>
<td>HRPR 5001</td>
<td>Current and Emerging Issues in Public Health and Health Professions</td>
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<td><strong>Core Courses</strong></td>
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<tr>
<td>EPBI 5101</td>
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<td>EPBI 5201</td>
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<td>EPBI 8001</td>
<td>Research Methods in Public Health</td>
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</tr>
<tr>
<td>EPBI 8202</td>
<td>Epidemiological Research Methods II</td>
<td>3</td>
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<tr>
<td></td>
<td><strong>Electives</strong></td>
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<tr>
<td>Choose three from the following:</td>
<td></td>
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<tr>
<td>ENVH 8207</td>
<td>Environmental Epidemiology</td>
<td></td>
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<tr>
<td>EPBI 5204</td>
<td>Mental Health Epidemiology</td>
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<td>EPBI 5500</td>
<td>Seminar in Current Issues in Public Health</td>
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<td>EPBI 8011</td>
<td>Social Epidemiology</td>
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<td>EPBI 8205</td>
<td>Chronic Disease Epidemiology</td>
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<td>EPBI 8206</td>
<td>Infectious Disease Epidemiology</td>
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<tr>
<td>EPBI 8208</td>
<td>Data Management and Analysis 1</td>
<td></td>
</tr>
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<td>EPBI 8209</td>
<td>Epidemiology of HIV/AIDS</td>
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<td>GUS 5071</td>
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<td><strong>Advanced Quantitative Methods Courses</strong></td>
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<tr>
<td>EPBI 5002</td>
<td>Biostatistics 2</td>
<td></td>
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<tr>
<td>EPBI 8012</td>
<td>Multivariable Biostatistics</td>
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<tr>
<td>EPBI 8201</td>
<td>Structural Equation Modeling</td>
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<td>Multilev Mod in Int Res</td>
<td></td>
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<tr>
<td>EPBI 8208</td>
<td>Data Management and Analysis 1</td>
<td></td>
</tr>
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</table>

#### Total Credit Hours

| Course may selected as an elective or as an advanced quantitative methods course, but not in both categories.
| EPBI 5002 Biostatistics is highly recommended.

**Culminating Events:**

**Thesis:**
The master's thesis documents the student's independent research and demonstrates mastery of her/his primary area of interest. Thesis research is conducted under the direct supervision of an academic advisor. The specific topic for research should be of current interest in the professional community. After a research topic is selected, the student performs preliminary background research. A thesis proposal is then submitted describing the plan for further steps toward completion of the proposed research. The student may continue the research only after the proposal is approved by the committee. Presentation of methods and study results is conducted upon completion of the thesis.

### Contacts

**Program Web Address:**
https://cph.temple.edu/epibio/programs-offered/graduate/ms-epidemiology

**Department Information:**
Dept. of Epidemiology and Biostatistics
Ritter Hall Annex, 9th Floor (004-09)
1301 Cecil B. Moore Avenue
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publichealth@temple.edu
215-204-8726

**Submission Address for Application Materials:**
https://sophas.liaisoncas.com/

**Department Contacts:**

**Admissions:**
CPH Office of Admissions
cph@temple.edu
215-204-5200

Theresa White
Senior Graduate Advisor
theresawhite@temple.edu
Epidemiology, Ph.D.

COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

About the Program

The dynamic and quantitatively oriented doctoral program in Epidemiology provides advanced training in epidemiologic and biologic methods. The program develops strong academic researchers in the field of Epidemiology with a clear understanding of the patterns, causes, and effects of diseases in the population who are well-prepared to design, implement, analyze, and interpret research studies investigating key epidemiologic questions with the ultimate goal of improving overall population health. Working closely with faculty in the department, students gain expertise in collecting data, designing instruments and research protocols, directing and conducting sophisticated and multilevel statistical analyses, interpreting data, and communicating research findings to both lay and professional audiences. All students in the Epidemiology Ph.D. program complete common core public health course requirements, which include foundational courses in Biostatistics, Epidemiology, grantsmanship, and research design. Beyond these core courses, students master specialized courses in advanced epidemiologic and biostatistical methods and engage in research and scholarly productivity with faculty members in the department and throughout the College.

In addition to in-depth, didactic training in epidemiologic and quantitative concepts and methods, the Ph.D. in Epidemiology program aims to foster in students the development of a public health professional identity and values. Professional development exercises are infused in didactic courses and available in other program-sponsored activities (e.g., conference attendance, departmental colloquia and brown-bag presentations, journal clubs, and professional development workshops). Doctoral trainees in Epidemiology are encouraged to take advantage of these professional development opportunities offered at various public health centers and laboratories throughout the College of Public Health and Temple University. Ph.D. in Epidemiology students work closely with faculty mentors throughout the program and particularly during the dissertation phase on formalizing grant-writing skills, teaching in higher education, and writing papers for publications to prepare students as the next generation of academic researchers.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: Full-time study is preferred.

Interdisciplinary Study: Students are encouraged to develop a program of research that is interdisciplinary in nature, involving coursework and research across departments, schools, and colleges that is quantitative and methodologic in focus. Research in affiliated units is encouraged.

Affiliation(s): A number of centers and laboratories exist within the Department of Epidemiology and Biostatistics, the College of Public Health, and Temple University that are designed to study, develop, and evaluate interventions aimed at resolving significant public health problems (e.g., ethnic and racial disparities in cancer, inadequate disaster preparedness, maternal and child health, obesity, tobacco exposure, and violence). These centers and labs offer opportunities for research placements for doctoral students to assist students in developing research and papers for publication and presentation at conferences; provide professional socialization; help students meet and work with faculty to define dissertation projects using existing funded research studies; and may provide some funding in the form of Research Assistantships.

Specific centers and labs include the Health Behavior Research Clinic, the Maternal and Child Health Wellness Laboratory, the Risk Communication Laboratory, and the Social and Behavioral Health Intervention Laboratory. Faculty and doctoral students also are involved in research with affiliates in the Department of Nursing, Fox Chase Cancer Center, the Fox School of Business and Management, the Institute on Aging, the Institute on Disabilities, the School of Media and Communication, the School of Medicine, and the School of Podiatric Medicine. Additional research opportunities at Temple University include the Institute for Survey Research, the Social Science Data Library, and the Office of Institutional Research and Assessment.

Job Prospects: Graduates of the Ph.D. in Epidemiology program are prepared to become empirical quantitative researchers in academic units, nonprofit organizations, government agencies, or the private sector, including pharmaceutical companies or health systems. Graduates are well trained to identify the etiology of major public health issues; conduct and analyze survey, surveillance, longitudinal, case-control, and experimental data using comprehensive and complex statistical techniques; and develop their own methodologically rigorous research studies.

Non-Matriculated Student Policy: Non-matriculated students may take Ph.D. courses only with the permission of the instructor. Further, 8000-level courses are not open to non-matriculated students. Completion of coursework does not ensure admission into the program.

Financial Opportunities: Full-time Ph.D. students generally receive financial support through a combination of fellowships and assistantships. Research Assistants (RAs) perform supervised research activities. Teaching Assistants (TAs) may be assigned to assist in the teaching of courses, including grading examinations and papers or teaching laboratory sections. Some TAs independently teach undergraduate courses. TAs and RAs provide 20 hours of service per week. Both assistantships carry a stipend and typically tuition remission for up to 9 credits per term. Applications for assistantships are available from the Department of Public Health and must be submitted by January 10 for the following Fall term. The RA/TA application requires a statement of previous teaching and/or research experience, areas of interest, and future goals; unofficial copies of transcripts; and a curriculum vitae. The department makes offers of assistantships following admission to the program. Applications should be addressed to:

Levent Dumenci, Ph.D.
Chair, Department of Epidemiology and Biostatistics
939 Ritter Hall Annex (004-09)
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6005
LDumenci@temple.edu
Admission Requirements and Deadlines

Application Deadline:

Fall: January 2

All applicants to the Ph.D. in Epidemiology program must apply via the Centralized Application Service for Public Health (SOPHAS). The system can be accessed at https://sophas.liaisoncas.com/.

All application materials must be received by the deadline in order to be reviewed by the Ph.D. Admissions Committee. Admission is competitive, and students are admitted only once a year. Applications are evaluated together after the deadline has passed. Applications that are completed after the deadline are held for review the following year. An important component of the admissions decision is the fit between the applicant's goals, experiences, and interests and the expertise of the faculty in the Ph.D. program.

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's academic abilities and talents, as well as comment on the applicant's aptitude for doctoral-level study and research. Recommendations from college/university faculty members are preferred.

Coursework Required for Admission Consideration: Applicants are expected to have completed coursework in Statistics, Research Methods, Epidemiology, and Data Analysis. Courses in Natural, Social, or Behavioral Sciences related to health are desirable.

Master’s Degree in Discipline/Related Discipline: Nearly all students admitted to the Ph.D. in Epidemiology program have a master’s degree. Although a master's degree specifically in epidemiology is not required, preference is given to applicants who have a background in epidemiology, statistics, and the health sciences, including behavioral medicine, environmental health, medicine, or a public health discipline.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree is required, although it need not be in public health. Preference is given to applicants who have a background in epidemiology, statistics, and the health sciences, including behavioral medicine, environmental health, medicine, or a public health discipline.

Statement of Goals: In no more than 750 words,

• describe important academic and research achievements and interests, and
• specify how your research interests relate to your ultimate career goals in the field of Epidemiology and to ongoing work by faculty members affiliated with the Ph.D. in Epidemiology program.

The match between faculty and student interests is important in the admissions decision. Be sure to articulate clearly the linkages among your training goals, the expertise of our faculty, and the training emphasis of the Ph.D. program. For a description of faculty interests, visit https://cph.temple.edu/epibio/about-us/faculty.

Standardized Test Scores:

GRE: Required. The median score of recently admitted applicants is 153 on the verbal section and 144 on the quantitative section.

TOEFL (international applicants only): 79 iBT or 550 PBT minimum.

Resume: Current resume required.

Writing Sample: Scholarly articles, technical reports, or academic professional papers are preferred in which the applicant is the first author. Unless it is a published work, the writing sample should be no more than 10 pages.

Advanced Standing: A student enrolled in the Ph.D. in Epidemiology program may apply for advanced standing credits for graduate coursework graded “B” or better from an accredited institution. Credits for courses taken as part of a master's degree are considered; credits for thesis work, fieldwork, clinical practice, or directed projects/readings cannot be used for advanced standing credit. To be approved for advanced standing, the courses must be deemed appropriate as part of the student's training in the Ph.D. program. For the maximum number of advanced standing credits awarded, consult the program's Senior Graduate Advisor.

Program Requirements

General Program Requirements:

Number of Credits Required to Earn the Degree: 45

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRPR 5001</td>
<td>Current and Emerging Issues in Public Health and Health Professions</td>
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</tr>
<tr>
<td>EPBI 5201</td>
<td>Epidemiological Research Methods I</td>
<td>3</td>
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<tr>
<td>EPBI 8012</td>
<td>Multivariable Biostatistics</td>
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<tr>
<td>EPBI 8202</td>
<td>Epidemiological Research Methods II</td>
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<tr>
<td>EPBI 8208</td>
<td>Data Management and Analysis</td>
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<td>ENPH 5062</td>
<td>Pathophysiology of Human Disease</td>
<td>3</td>
</tr>
<tr>
<td>EPBI 8209</td>
<td>Epidemiology of HIV/AIDS</td>
<td>3</td>
</tr>
<tr>
<td>EPBI 8212</td>
<td>Grantsmanship in Health Research</td>
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<tr>
<td>EPBI 8302</td>
<td>Behavioral Measurement</td>
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<tr>
<td>EPBI 8503</td>
<td>Teaching in Higher Education course</td>
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Choose five from the following:

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<tr>
<td>ENVH 8016</td>
<td>Human Health Risk Analysis</td>
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<td>ENVH 8207</td>
<td>Environmental Epidemiology</td>
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<td>ENVH 8309</td>
<td>Exposure Assessment</td>
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<td>Spatial Analysis in Public Health</td>
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<td>GUS 5062</td>
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<tr>
<td>EPBI 5204</td>
<td>Mental Health Epidemiology</td>
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<tr>
<td>EPBI 5500</td>
<td>Seminar in Current Issues in Public Health</td>
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<tr>
<td>EPBI 8201</td>
<td>Structural Equation Modeling</td>
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<tr>
<td>EPBI 8203</td>
<td>Public Health Data Reporting</td>
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<tr>
<td>EPBI 8204</td>
<td>Multilev Mod in Int Res</td>
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<tr>
<td>EPBI 8205</td>
<td>Chronic Disease Epidemiology</td>
</tr>
<tr>
<td>EPBI 8206</td>
<td>Infectious Disease Epidemiology</td>
</tr>
<tr>
<td>EPBI 8209</td>
<td>Epidemiology of HIV/AIDS</td>
</tr>
</tbody>
</table>
### EPBI 9187  Biostat Cnslt Practicum
### GUS 5065  Urban Geographical Information Systems
### GUS 5066  Environmental Applications of GIS
### GUS 5067  GIS and Location Analysis
### GUS 5068  Census Analysis with Geographical Information Systems
### GUS 5069  GIS for Health Data Analysis
### SBS 8018  Obesity: From Genes to Junk Food
### STAT 8121  Statistical Computing
### STAT 8122  Advanced SAS Programming
### STAT 9103  Stat Lrng & Data Mining

#### Non-Didactic Courses
- **EPBI 9994** Preliminary Examinations
- **EPBI 9998** Dissertation Proposal Research
- **EPBI 9999** Dissertation Research

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<th>Course Name</th>
<th>Credit Hours</th>
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<td>Preliminary Examinations</td>
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</tr>
<tr>
<td>EPBI 9998</td>
<td>Dissertation Proposal Research</td>
<td>2</td>
</tr>
<tr>
<td>EPBI 9999</td>
<td>Dissertation Research</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credit Hours**: 45

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1. This common College Core course is required of all incoming graduate students in the College of Public Health. It is available completely online and designed such that students can complete the modules at their own pace over the course of their degree program.

2. Sample topics for EPBI 5500 include Data Analysis for Computer Packages and Molecular Epidemiology.

3. Students enrolled in EPBI 9998 must take 2 credits each term until the dissertation proposal is approved and filed with the Graduate School.

4. Students enrolled in EPBI 9999 must take a minimum of 3 credits after approval of the proposal and be enrolled for at least 1 credit each term until the dissertation is defended and filed with the Graduate School.

### Culminating Events:

#### Area Paper:
Prior to sitting for the preliminary examinations, students must write a published or publishable paper in their chosen area. The purpose of the paper requirement is to demonstrate critical and interpretive knowledge in epidemiology, as well as a high proficiency in written communication and a capacity to contribute to generalizable knowledge in the field. The paper can be written in one of a variety of formats, including a systematic review, an empirical paper, or a theoretical piece relevant to the field. The student must be the lead or sole author.

The Director of Graduate Studies determines if the published paper meets the writing requirement. If a student is not submitting a first-authored, peer-reviewed, and published (or in press) article, two faculty reviewers review the paper to assess whether it is of publishable quality. The second reader may not be the student’s advisor. The review is similar to a peer review of a journal article and evaluated as either passing or failing the writing requirement. Students who fail the paper requirement are allowed to submit a revision. The evaluators set a reasonable timeline for doing so, usually within one term.

A student cannot advance to the preliminary examinations without passing the paper requirement. Failure to satisfactorily complete the area paper requirement within the specified time frame can result in dismissal from the Ph.D. program. Students who are entering the Ph.D. program and have already published a peer-reviewed paper related to epidemiology can request to waive this requirement by completing a waiver application and submitting it along with the published document to the Director of Graduate Studies.

#### Preliminary Examinations (EPBI 9994):
In the term prior to taking the preliminary examinations, students should review their progress with their faculty advisor. To register for EPBI 9994, students must also meet with the Director of Graduate Studies, who can best explain the scope of and process involved in taking the preliminary examinations. The Director of Graduate Studies is charged with reviewing "Advising Form 1," which describes the student's program plan, and, in consultation with the Senior Graduate Advisor, reviewing Banner records to determine the student's eligibility. The Director of Graduate Studies then provides authorization to enroll eligible students for the preliminary examinations. When their eligibility has been confirmed, students must contact the Academic Coordinator and request to be registered for the exam course in the subsequent academic term with the Director of Graduate Studies or faculty advisor.

All students are required to take the preliminary examinations after completion of coursework but prior to registering for EPBI 9998 and defending the dissertation research proposal. Offered in the Fall or Spring term as needed, the preliminary examinations cover the core components of students' training in epidemiology and biostatistics, as well as the specific area of concentration. The examinations consist of the following components:

- Two separate in-class examinations reflect knowledge of both advanced epidemiological methods and advanced biostatistical techniques.
- One take-home written research examination involves responding to a request for proposal (RFP) and generating an innovative, fully described study design. The RFP is within the student's research expertise and preapproved by the faculty advisor.
- An oral examination on any and all areas covered in the three examinations and the student's content concentration is taken before a panel of three faculty members.

The complete process takes approximately seven weeks from the time that the student takes the first examination till s/he completes the oral exam. A typical timeline for the exam process follows:

- **Week 1**: Six-hour in-class exam I
- **Week 2**: Six-hour in-class exam II
- **Weeks 3-4**: Take-home exam with one week to complete. The exact dates for receiving the take-home exam and returning it must be determined by the student and clearly communicated to the Director of Graduate Studies in writing via email. The Director of Graduate Studies is responsible for sending out the exam on the established date, and the student is responsible for returning it via email to the Director. The student must return the exam by the predetermined date.
  - **Weeks 4-6**: Faculty grade all written exams
  - **Week 7**: Oral exam

On occasion, a student chooses to complete a course after or concurrent with taking the preliminary examinations. The student's faculty advisor and the Director of Graduate Studies must approve such an exception in advance and in writing.

The Director of Graduate Studies coordinates the grading of the preliminary examinations and is responsible for coordinating the scheduling of the oral exam. A committee of departmental faculty...
members review and score the examinations and evaluate each student’s performance in the oral exam.

**Dissertation Proposal (EPBI 9998):**  
After passing the preliminary examinations, students may enroll in EPBI 9998. Students must be enrolled for 2 credits of EPBI 9998 each term until they file their dissertation proposal with the Graduate School.

All students must form a Doctoral Advisory Committee (DAC) with the approval of the Director of Graduate Studies. The DAC is composed of at least three Graduate Faculty members: two members, including the Chair, must be from the Ph.D. program faculty of the Department of Epidemiology and Biostatistics. The DAC Chair must be approved as Doctoral Graduate Faculty by the Dean of the College of Public Health and by the Graduate School. The chair is responsible for overseeing and guiding the student’s progress; coordinating the responses of the committee members; and informing the student and the Director of Graduate Studies annually of the student's academic progress. A fourth, external reader is also required at the time of the final dissertation defense. This person must be a member of the Graduate Faculty at Temple or approved by the Dean of the College to take part in the final dissertation examination. This fourth member is not required to be present at the defense of the proposal.

To fulfill the requirements of EPBI 9998, students must submit a dissertation proposal, successfully defend it orally before their committee, apply for IRB approval for the proposed research, and submit the proposal to the Graduate School. Students have a maximum of one year from the time of completing their preliminary examinations to develop and defend their dissertation proposal. Thus, students may enroll in EPBI 9998 for only two terms without permission. Students needing more time may, with the support of their advisor, formally petition the Director of Graduate Studies for an extension, although an extension is not guaranteed. Failure to meet these requirements can result in dismissal from the program.

**Dissertation (EPBI 9999):**  
The doctoral dissertation is an original theory-based research study that makes a significant contribution to the fields of public health and epidemiology. It should expand existing knowledge and demonstrate the student’s mastery of research design methods and advanced statistical techniques, particularly within the field of epidemiology. The research should be rigorous, while upholding the ethics and standards of the field. It is expected that the study will result in publication and presentation to professional audiences.

To fulfill the dissertation requirement, students must prepare and orally defend the final dissertation in a public meeting. Students should present their plans for publishing their dissertation as part of their defense. Students must be enrolled continuously for at least 3 credits of dissertation research until their dissertation is successfully defended. The Graduate School requires a minimum of 6 credits for the dissertation experience. Students must be enrolled in the term that they graduate.

The Dissertation Examining Committee (DEC) consists of the DAC plus at least one additional external reviewer. The external reviewer must be doctorally prepared. If this person is not a member of the Temple University Graduate Faculty, s/he must be approved by the Director of Graduate Studies, the Dean of the College, and the Graduate School to take part in the final dissertation examination. The DEC evaluates the student’s written dissertation and oral defense, including the student’s ability to articulate orally the research question; methodological approach; primary findings; interpretation of the findings; and implications for theory, research, and practice. The DEC votes to pass or fail the dissertation and the defense at the conclusion of the public presentation.

If a student needs to change a member of a committee, the new member must be approved by the Director of Graduate Studies and registered with the Graduate School.

Students who are preparing to defend their dissertation should confirm a time and date with their DEC and work with the Department of Epidemiology and Biostatistics’s administrative assistant to secure a room. This should be done at least one month in advance of the proposed date. The administrative assistant arranges the time, date, and room within two working days. After the time, date, and room are secured, the student must send to the Graduate School a completed “Announcement of Dissertation Defense” form, found in TUportal under the Tools tab within “University Forms.” This must be submitted at least 10 working days before the defense. The department posts flyers announcing the defense, and the Graduate School lists the defense on its website.

**Contacts**

**Department Web Address:**
https://cph.temple.edu/epibio/programs-offered/graduate/phd-epidemiology

**Department Information:**
Dept. of Epidemiology and Biostatistics  
Ritter Hall Annex, 9th Floor (004-09)  
1301 Cecil B. Moore Avenue  
Philadelphia, PA 19122-6005  
publichealth@temple.edu  
215-204-8726

**Submission Address for Application Materials:**
https://sophas.liaisoncas.com/

**Department Contacts:**

**Admissions:**
CPH Office of Admissions  
cph@temple.edu  
215-204-5200

Theresa White  
Senior Graduate Advisor  
theresawhite@temple.edu  
215-204-5105

**Chairperson:**
Levent Dumenci, Ph.D.  
Professor  
LDumenci@temple.edu  
215-204-4099

**Health Informatics, M.S.**

COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)
About the Program

Health Informatics is the intersection of healthcare, information science, and computer science. The M.S. in Health Informatics (MSHI) is an innovative, interdisciplinary, applied graduate degree program that addresses the intersection of healthcare and information technology to develop efficient systems, processes, and uses of health data across the continuum of healthcare delivery to improve patient care and advance individual and population health outcomes. The MSHI is focused on the resources, devices, and methods to optimize healthcare delivery. The program helps students develop the competencies and acquire the practical tools to succeed in today's digital healthcare environment. Current students include physicians, nurses, therapists, data analysts, and information technology and allied health professionals. The degree is also well suited for individuals with no prior healthcare or information technology experience.

The MSHI is available in two delivery options:

- The on-campus format is designed for professional students with evening courses delivered at Temple University Center City (TUCC). Students may enroll full-time or part-time. Students enrolled in the on-campus program may participate in online courses, if dictated by scheduling conflicts or changes in personal circumstances, such as extensive work travel one semester. The on-campus program allows for greater flexibility in selecting program concentrations and exposure to various on-campus transdisciplinary courses.
- The online format is designed for individuals outside the metro Philadelphia region or who travel extensively for professional reasons. Course formats include a mix of asynchronous and synchronous courses with synchronous sessions meeting via online conferencing tools. The program is offered across 7-week terms. Students enroll in one course per term and complete two courses in the length of a traditional semester. A differential tuition rate is extended to students completing the program online, thereby precluding enrollment in on-campus classes.

Applicants to the MSHI program must choose between the on-campus and online formats when applying and upon acceptance to the program.

Time Limit for Degree Completion: 5 years

Campus Location: Temple University Center City (TUCC) for on-campus study or entirely online

Full-Time/Part-Time Status: Full-time or part-time study is available for the on-campus format and part-time for the online format.

Interdisciplinary Study: The degree program is interdisciplinary in nature with a focus on inquiry, insight, and innovation. The program builds an awareness of both clinical and technical challenges in the field.

Accreditation: The curriculum meets the curricular requirements of the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM), which is the accrediting body of the American Health Information Management Association (AHIMA).

Areas of Concentration: The MSHI offers three areas of concentration for on-campus study:
- Cybersecurity for Healthcare Professionals
- Healthcare Data Analytics
- Population Health Management

Concentrations are limited in availability when completing the degree through the online format.

Job Prospects: Graduates of the program obtain positions in a variety of healthcare institutions or vendor settings in a wide range of positions such as project manager, electronic health record system implementation specialist, and health data analyst. A number of external organizations, including AHIMA, the American Medical Informatics Association (AMIA), and the Healthcare Information and Management Systems Society (HIMSS), conduct annual surveys of job prospects.

Non-Matriculated Student Policy: Students seeking a GRE waiver should consider taking classes on a non-matriculated basis. Non-matriculated students may take a maximum of 9 graduate-level credits. Upon completion of the credits, a student's academic performance is reviewed and a GRE waiver may be granted.

Transfer Credit: Graduate-level credits earned at another accredited institution may be evaluated during the application process. The maximum number of graduate credits a student may transfer is 6.

Financing Opportunities: Students in the MSHI program are generally working professionals. Therefore, funding for assistantships and academic internships is limited.

Admission Requirements and Deadlines

Application Deadline:

- Fall: March 1
- Spring: November 1

The application process requires submission through the Centralized Application Service for Public Health (SOPHAS). The system can be accessed at https://sophas.liaisoncas.com/.

Letters of Reference:

Number Required: 3

From Whom: Recommendations should be obtained from faculty and/or professionals familiar with the applicant's academic competence and/or professional work experience.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree or its equivalent, as recognized by Temple University, from an accredited post-secondary institution is required.

For applicants who completed their degree outside of the United States, a World Education Services (WES) (https://www.wes.org) course-by-course transcript evaluation is required. This can be requested and submitted through SOPHAS (https://sophas.liaisoncas.com/applicant-ux).

Statement of Goals: Demonstrate your professional writing ability as you demonstrate your interest in obtaining the degree. Submissions should address the impact of informatics in the field of health and healthcare as well as discuss the impact a graduate degree has on one's career.

Standardized Test Scores:

GRE: Required. Quantitative and verbal scores should be in the 50th percentile or above. Official GRE scores should be sent to SOPHAS (https://sophas.liaisoncas.com/applicant-ux) using code 0151. A student may seek a GRE waiver by demonstrating academic proficiency through the completion of three courses in the program on a non-matriculated basis.
For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:

TOEFL: 79 iBT or 550 PBT minimum. TOEFL scores should be sent officially to SOPHAS (https://sophas.liaisoncas.com/applicant-ux) using the SOPHAS-specific TOEFL code of 5688.

IELTS: 6.5 minimum

PTE Academic: 53 minimum

Resume: Current resume required.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

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<tr>
<td>HIM 5101</td>
<td>Fundamentals of Health Informatics</td>
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<tr>
<td>HIM 5112</td>
<td>Health Information Systems: Design and Decision Making</td>
<td>3</td>
</tr>
<tr>
<td>HIM 5113</td>
<td>Database Administration for Health Informatics Professionals</td>
<td>3</td>
</tr>
<tr>
<td>HIM 5127</td>
<td>Privacy and Security: Protecting Healthcare Data</td>
<td>3</td>
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<td>HIM 5128</td>
<td>Health Data: Standards and Interoperability</td>
<td>3</td>
</tr>
<tr>
<td>HIM 5129</td>
<td>Health Data Analysis</td>
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<td>HIM 9995</td>
<td>Capstone Project</td>
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<td>HPM 5006</td>
<td>Political and Economic Aspects of Health</td>
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<tr>
<td>HRPR 5001</td>
<td>Current and Emerging Issues in Public Health and Health Professions</td>
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Concentration Electives: 6 credits

Total Credit Hours: 30

1 This common College Core course is required of all incoming graduate students in the College of Public Health. It is available completely online and designed such that students can complete the modules at their own pace over the course of their degree program.

2 Two electives are taken in a chosen area of concentration. The approved electives are delineated in the grids below:

Cybersecurity for Healthcare Professionals Concentration

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<tr>
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<tr>
<td>MIS 5206</td>
<td>Protection of Information Assets</td>
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<tr>
<td>MIS 5209</td>
<td>Securing Digital Infrastructure</td>
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Total Credits: 6

Healthcare Data Analytics Concentration

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<tbody>
<tr>
<td>HIM 5111</td>
<td>Technology for Healthcare Financial Management</td>
<td>3</td>
</tr>
<tr>
<td>HIM 5114</td>
<td>Health Informatics Project Management</td>
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</table>

Total Credits: 6

A graduate certificate in Health Informatics is also offered by the College of Public Health. For more information, visit http://bulletin.temple.edu/graduate/scd/cph/health-informatics-certificate/.

Culminating Events: Successful completion of coursework is required to earn the degree.

Contacts

Program Web Address:
https://cph.temple.edu/master-science-health-informatics-mshi

Department Information:

Dept. of Health Services Administration and Policy
Ritter Hall Annex, 9th Floor
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6005
hlthinfo@temple.edu
215-204-8726

Submission Address for Application Materials:
https://sophas.liaisoncas.com/

Department Contacts:

Admissions:
CPH Office of Admissions
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215-204-5200

Graduate Program Director:
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215-204-1892

Chairperson:
William Aaronson, Ph.D.
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215-204-8128

Health Policy, Ph.D.

COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

About the Program

The Ph.D. program in Health Policy is administered by the Department of Health Services Administration and Policy. This program is unique in that it provides students with an opportunity to develop mixed methods research to investigate health policy and its impact on population health,
access to care, and reduction in health disparities. The program trains students in the use of qualitative and quantitative research methods using primary data collection and secondary data sets to research the development, implementation, and impact of health policy initiatives. The Ph.D. program in Health Policy emphasizes health services, economics, and outcomes research as well as healthcare administration and leadership in investigating health disparities, public health interventions, and clinical outcomes as the basis to inform health policy. The program trains students to develop, evaluate, and implement health policy at multiple levels (local, state, national, global) and in both private and public institutional settings. Students in the program work closely with faculty members to explore key public health issues such as improving the quality and outcomes of healthcare services; examining healthcare costs; addressing health disparities; and developing policy initiatives targeting areas of population health, including aging, chronic disease, mental health, risk behaviors, substance use, and violence/injury prevention. The Ph.D. program:

- provides training and experiences that support interdisciplinary learning;
- promotes critical and theory-based problem-solving skills to address public health problems; and
- fosters the development of public health professional values and ethics.

All students in the Health Policy Ph.D. program complete common core course requirements that include foundational courses in Bioethics, Biostatistics, Epidemiology, Health Behavior, Health Policy, and History of Public Health, and are introduced to critical public health research methods and statistical techniques. Beyond these core courses, students take specialized courses in their chosen subdiscipline and engage in research and scholarly productivity with faculty members. In addition to in-depth didactic training in cross-disciplinary concepts and methods, the Ph.D. program aims to foster the development of public health professional identities and values in its students. Professional development exercises include conference attendance, departmental colloquia and brown-bag presentations, journal clubs, and professional development workshops. Doctoral trainees are also encouraged to take advantage of professional development opportunities offered by the College of Public Health and Temple University broadly, including special workshops and seminars on grant writing, methods, and teaching. Finally, students learn by working closely with faculty on research and writing papers for publications.

The student experience at Temple University is unique in that opportunities are available to improve community health and reduce public health disparities in one of the largest urban settings in the United States. Many doctoral students collaborate with community-based and healthcare-delivery organizations in Philadelphia while they conduct research projects for their dissertations. The in-person format of the Health Policy Ph.D. program allows students to work closely with faculty and peers to collaborate on research studies, meet potential mentors and collaborators, develop collegial bonds, and prepare for a future health policy career.

**Time Limit for Degree Completion:** 7 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** Full-time study is required unless permission is received from the Director of the Ph.D. program.

**Interdisciplinary Study:** Students are encouraged to develop programs of study that are interdisciplinary in nature, involving coursework across departments, schools, and colleges. Research in affiliated units is encouraged.

**Affiliation(s):** A number of centers and programs exist within the College of Public Health, Temple University, and the Temple University Health System that are designed to study, develop, and evaluate interventions aimed at resolving significant public health problems (e.g., addiction, chronic disease care, ethnic and racial disparities in cancer, obesity, tobacco exposure, and violence). These offer opportunities for research placements for doctoral students; assist students in developing papers for publication and presentation at conferences; provide professional socialization; help students define dissertation projects using existing funded studies; and may provide some funding in the form of Research Assistantships.

Faculty and doctoral students also are involved in research with affiliates in the Fox Chase Cancer Center, the Fox School of Business and Management, the Institute on Aging, the Institute on Disabilities, the Lew Klein College of Media and Communication, the Lewis Katz School of Medicine, the Public Health Law Research Program, the School of Podiatric Medicine, and Temple University Health System.

**Accreditation:** The Health Policy Ph.D. program is fully accredited by the Council on Education for Public Health (CEPH).

**Job Prospects:** Graduates of the Ph.D. program are prepared to become faculty members or researchers in colleges and universities or to hold research and policy-related positions in a wide range of organizations, including health foundations, health systems, pharmaceutical companies, and public health departments.

**Financing Opportunities:** Full-time Ph.D. students generally receive financial support through a combination of university fellowships and assistantships.

**University Fellowships:**
The Department of Health Services Administration and Policy nominates outstanding applicants for consideration for the following fellowship opportunities:

- Presidential Fellowships are the most prestigious awards. Competition is reserved for only the most outstanding candidates.
- University Fellowships are awarded to outstanding incoming graduate students. These awards are intended to support students who demonstrate outstanding potential for success in their chosen fields.
- Future Faculty Fellowships are intended to attract outstanding students who would diversify the professoriate. Candidates are newly admitted graduate students from underrepresented groups in the applicant’s discipline who show exceptional leadership and/or have overcome significant obstacles in pursuing an academic career.

University fellowships provide a stipend and tuition for two years of study. The College of Public Health then provides a graduate assistantship to cover the additional two years of study.

**College of Public Health Graduate Assistantships:**
Graduate assistantships sponsored by the College of Public Health include:

- Research Assistants (RAs) perform supervised research activities. Research assistantships are frequently supported by faculty grant funding, and it is anticipated the RAs will work with faculty members.
Admission Requirements and Deadlines

Application Deadline:

Fall: January 2

All applicants to the Health Policy Ph.D. program must apply via the Centralized Application Service for Public Health (SOPHAS). The system can be accessed at https://sophas.liaisoncas.com/.

All application materials must be received by the deadline in order to be reviewed by the Ph.D. Admissions Committee. Admission is competitive, and students are admitted only once a year. Applications are evaluated together after the deadline has passed. Applications that are completed after the deadline are held for review the following year. An important component of the admissions decision is the fit between the applicant's goals, experiences, and interests and the expertise of the faculty in the Ph.D. program.

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant’s academic abilities and talents, as well as comment on the applicant’s aptitude for doctoral-level study and research. Recommendations from college/university faculty members are preferred.

Coursework Required for Admission Consideration: Applicants are expected to have completed coursework in the natural, social, or behavioral sciences related to health. A course in statistics and research methods is also desirable. The following prerequisites, which do not count toward the Ph.D., must also be satisfied, either through an M.P.H. degree or course equivalency:

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>ENVH 5103</td>
<td>Environmental Health</td>
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<tr>
<td>EPBI 5002</td>
<td>Biostatistics</td>
<td>3</td>
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<tr>
<td>EPBI 5101</td>
<td>Fundamentals of Epidemiology</td>
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</tr>
<tr>
<td>HPM 5006</td>
<td>Political and Economic Aspects of Health</td>
<td>3</td>
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<tr>
<td>or HPM 8003</td>
<td>Political-Economic Aspects of Public Health</td>
<td>3</td>
</tr>
<tr>
<td>SBS 5102</td>
<td>Theoretical Foundations of Health Behavior</td>
<td>3</td>
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Master’s Degree in Discipline/Related Discipline: Nearly all students admitted to the program have a master’s degree. Although a master's degree specifically in Public Health is not required, preference is given to applicants who have a background in the health sciences, including behavioral medicine, environmental health, epidemiology, health communication, health psychology, medicine, or a public health discipline.

Bachelor’s Degree in Discipline/Related Discipline: A baccalaureate degree is required, although it need not be in Public Health. Preference is given to applicants who have a background in the health sciences, including behavioral medicine, environmental health, epidemiology, health communication, health psychology, medicine, or a public health discipline.

Statement of Goals: In no more than 750 words:

- identify Health Policy (HP) as the program for which you wish to be considered and why;
- describe important academic and research achievements and interests; and
- specify how your research interests relate to your ultimate career goals and to ongoing work by faculty members affiliated with the HP Ph.D. program.

The match between faculty and student interests is important in the admissions decision. Be sure to articulate clearly the linkages among your training goals, the expertise of our faculty, and the training emphasis of the Ph.D. program. For a description of faculty interests, visit https://cph.temple.edu/healthadmin/policy/about/faculty.

Standardized Test Scores:

GRE: Required. The median score of recently admitted applicants is 550 (old test) or 156 (new test) verbal and 620 (old test) or 149 (new test) quantitative.

TOEFL (international applicants only): 79 IBT or 550 PBT minimum.

Resume: Current curriculum vitae required.

Writing Sample: Scholarly articles, technical reports, or academic professional papers are desirable. Unless it is a published work, the writing sample should be no more than 10 pages.

Advanced Standing: A student enrolled in the Health Policy Ph.D. program may apply for advanced standing credits for graduate coursework graded "B" or better from an accredited institution. Credits for courses taken as part of a master's degree are considered; credits for thesis, fieldwork, clinical practice, or directed projects/readings cannot be used for advanced standing credit. To be approved for advanced standing, the courses must be deemed appropriate as part of the student’s training in the Health Policy Ph.D. program. The maximum number of advanced standing credits awarded is 30.

Program Requirements

General Program Requirements:

Total Number of Credits Required: 45 (some of which may be in the form of Advanced Standing credit, as determined after matriculation).
Required Courses:

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Health Policy Theory Courses

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<tr>
<td>HPM 8005</td>
<td>Theor Hlth Policy Making</td>
<td>3</td>
</tr>
<tr>
<td>HPM 8008</td>
<td>Health Economics</td>
<td>3</td>
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<tr>
<td>HPM 8014</td>
<td>Comparative Health Policy</td>
<td>3</td>
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<tr>
<td>HPM 8015</td>
<td>Public Health Policy and Legal Issues</td>
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Research Methods Courses

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<tr>
<td>EPBI 8012</td>
<td>Multivariable Biostatistics</td>
<td>3</td>
</tr>
<tr>
<td>EPBI 8212</td>
<td>Grantsmanship in Health Research</td>
<td>3</td>
</tr>
<tr>
<td>HPM 8013</td>
<td>Research Methods in Health Policy</td>
<td>3</td>
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</tbody>
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Electives 2 18

Select electives in Research Methods:

- EPBI 8201 Structural Equation Modeling
- EPBI 8204 Multilev Mod in Int Res
- EPBI 8208 Data Management and Analysis
- POLS 8002 Qualitative Research Methods
- POLS 8112 Research in State Politics
- SBS 8001 Research Methods in Public Health
- Econometric Methods for Health Services Research course

Select electives in Health Policy Theory:

- HPM 5016 Public Health Advocacy
- HPM 5105
- HPM 5500 Seminar in Current Issues in Public Health
- POLS 8103 Legislative Behavior

Non-Didactic Courses 3 6

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<th>Credit Hours</th>
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<td>HPM 9994</td>
<td>Preliminary Examinations</td>
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</tr>
<tr>
<td>HPM 9998</td>
<td>Dissertation Proposal Research</td>
<td>1</td>
</tr>
<tr>
<td>HPM 9999</td>
<td>Dissertation Research</td>
<td>1</td>
</tr>
</tbody>
</table>

Total Credit Hours 45

1 This common College Core course is required of all incoming graduate students in the College of Public Health. It is available completely online and designed such that students can complete the modules at their own pace over the course of their degree program.

2 Other electives may be selected with the approval of a faculty advisor.

3 The Graduate School requires that students complete a minimum of 6 credits, including HPM 9994, HPM 9998, and HPM 9999. Of the 6 credits, at least 2 credits must be earned at the dissertation phase in HPM 9999.

Culminating Events:

**Area Paper:**

Prior to completing the Health Policy Comprehensive Examination, students must write a published or publishable paper in their chosen area. The purpose of the paper requirement is to demonstrate critical and interpretive knowledge in specialized areas of one’s chosen program, as well as a high proficiency in written communication and a capacity to contribute to generalizable knowledge in the field. The paper can be written in one of a variety of formats, including a systematic review, an empirical paper, or a theoretical piece relevant to the field. The student must be the lead or sole author.

The Director of Graduate Studies determines if the paper meets the writing requirement. The review is similar to a peer review of a journal article and evaluated as either passing or failing the writing requirement. Students who fail the paper requirement are allowed to submit a revision. The evaluators set a reasonable timeline for doing so, usually within one term.

A student cannot advance to the Health Policy Comprehensive Examination without passing the paper requirement. Failure to satisfactorily complete the area paper requirement within the specified time frame can result in dismissal from the Ph.D. program. Students who are entering the Ph.D. program and have already published a peer-reviewed paper related to their programmatic subdiscipline can request to waive this requirement by completing a waiver application and submitting it along with the published document to the Director of Graduate Studies.

**Oral Presentation:**

Prior to advancing to the Health Policy Comprehensive Examination, an oral presentation of 30 to 45 minutes is also required. This presentation can focus on the student’s area paper, research experiences, or grant proposal developed in EPBI 8212 Grantsmanship in Health Research. The topic for the oral presentation must be approved by the Director of Graduate Studies prior to scheduling the presentation. The Director of Graduate Studies assists in scheduling the time and location for the oral presentation, which is open to College of Public Health students and faculty. Faculty provide comments about the study after the presentation. The Director of Graduate Studies determines if the oral presentation meets the oral communication requirement. Students who fail the oral presentation requirement are allowed an additional opportunity to demonstrate their oral communication skills in a public oral presentation.

**Article Critique:**

A third requirement prior to advancing to the Health Policy Comprehensive Examination is the student’s prepared critique of a published article selected by the Director of Graduate Studies. Questions to be addressed by the critique are provided to the student. This critique is limited to two single-spaced pages with one-inch margins in a font sized at least 11 point. The critique is then reviewed by the Director of Graduate Studies, who decides whether it is approved, rejected, or approved pending revisions.

**Health Policy Comprehensive Examination:**

After completing the area paper, oral presentation, and article critique requirements, all students are required to successfully complete the Health Policy Comprehensive Exam prior to defending their dissertation research proposal. The exam should be taken within one term of completing all coursework. The student must register for 1 credit of HPM 9994 Preliminary Examinations in the term in which the examination is taken. To register for HPM 9994, the student must have completed all coursework or be enrolled in final courses in the term in which the examination is taken. The examination cannot be taken until all Incomplete and/or “NR” grades are removed and the area paper, oral presentation, and article critique requirements have been satisfied. Students are required to meet with their advisor and the Director of Graduate Studies before the beginning of the term in which they plan to take the examination to establish eligibility. Special authorization is required to register for HPM 9994.

The Health Policy Comprehensive Examination is based on a topic chosen by the student and approved by the Director of Graduate...
After passing the Health Policy Comprehensive Examination, students must prepare and orally defend a dissertation proposal, successfully defend it orally before their committee, apply for IRB approval for the proposed research, and submit the proposal to the Graduate School. Students have a maximum of one year from the time of completing their Health Policy Comprehensive Examination to develop and defend their dissertation proposal. Thus, students may enroll in HPM 9998 for only two terms without permission. Students needing more time may, with the support of their advisor, formally petition the Director of Graduate Studies for an extension, although an extension is not guaranteed. Failure to meet these requirements can result in dismissal from the program.

Once the proposal is defended, the student is elevated to candidacy and eligible to register for dissertation credits.

Dissertation (HPM 9999):

The doctoral dissertation is an original theory-based research study that makes a significant contribution to the field of Public Health. It should expand existing knowledge and demonstrate the student's mastery of theory and research methods, particularly within a concentration or specialty area. The research should be rigorous, while upholding the ethics and standards of the field. It is expected that the study will result in publication and presentation to professional audiences.

To fulfill the dissertation requirement, students must prepare and orally defend the final dissertation in a public meeting. Students should present their plans for publishing their dissertation as part of their defense. Students must be enrolled continuously in HPM 9999 until their dissertation is successfully defended. The Graduate School requires a minimum of 2 credits of HPM 9999. Students must be enrolled in the term that they graduate.

The Dissertation Examining Committee (DEC) consists of the DAC plus at least one additional external reviewer. The external reviewer must be doctorally prepared. If this person is not a member of the Temple University Graduate Faculty, s/he must be approved by the Director of Graduate Studies, the Dean of the College, and the Graduate School to take part in the final dissertation examination. The DEC evaluates the student’s written dissertation and oral defense, including the student’s ability to articulate orally the research question; methodological approach; primary findings; interpretation of the findings; and implications for theory, research, and practice. The DEC votes to pass or fail the dissertation and the defense at the conclusion of the public presentation.

If a student needs to change a member of a committee, the new member must be approved by the Director of Graduate Studies and registered with the Graduate School.

Students who are preparing to defend their dissertation should confirm a time and date with their DEC and work with their department’s administrative assistant to secure a room. This should be done at least one month in advance of the proposed date. The Administrative Assistant arranges the time, date, and room within two working days. After the time, date, and room are secured, the student must send to the Graduate School a completed “Announcement of Dissertation Defense” form, found in TPortal under the Tools tab within “University Forms.” This must be submitted at least 10 working days before the defense. The department posts flyers announcing the defense, and the Graduate School lists the defense on its website.

Contacts

Program Web Address:  
https://cph.temple.edu/healthadminpolicy/programs-offered/graduate/health-policy-phd

Department Information:  
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Ritter Hall Annex, 9th Floor (004-09)  
1301 Cecil B. Moore Avenue  
Philadelphia, PA 19122-6005  
publichealth@temple.edu  
215-204-8726

Submission Address for Application Materials:  
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Department Contacts:

Admissions:
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215-204-5200

Theresa White
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Graduate Program Director:
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Chairperson:
William Aaronson, Ph.D.
aaronson@temple.edu
215-204-8128

Health Policy and Management, M.P.H.
COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

About the Program

The Master of Public Health in Health Policy and Management (M.P.H.-HPM) is a terminal, professional degree designed to develop professionals in the field of public health and health services delivery who have a clear understanding of the health policy and management of health-related programs, as well as the Triple Aim of managing health of population, improving the patient experience, and reducing systems cost. The MPH-HPM offers optional concentrations in Health Leadership and in Health Policy.

Time Limit for Degree Completion: 4 years

Campus Location: Main for the on-campus M.P.H. program and online

Full-Time/Part-Time Status: Students can complete the degree program through evening classes and online courses. Full-time students usually complete the program within two academic years. Part-time students usually take three to four years to complete their degree.

Interdisciplinary Study: Interdisciplinary MPH-HPM coursework, research, and interactions are encouraged to give students as broad a perspective as possible to excel in the complex, diverse, and dynamic state of public health. Through associations with the Center for Obesity Research and Education and others, students have access to dozens of faculty at Temple University and additional regional scholars who are actively involved in programs, research, and teaching in public health. Further, as with the other four M.P.H. degree programs offered by the College of Public Health, the M.P.H. in Health Policy and Management can be undertaken as part of these nine dual M.P.H. degree programs:

- D.M.D./M.P.H. with Temple University’s Kornberg School of Dentistry
- D.O./M.P.H. with the Philadelphia College of Osteopathic Medicine
- D.P.M./M.P.H. with the Temple University School of Podiatric Medicine
- J.D./M.P.H. with Temple University’s Beasley School of Law
- M.D./M.P.H. with the Lewis Katz School of Medicine at Temple University
- M.H.A./M.P.H. with the Lewis Katz School of Medicine at Temple University
- M.P.H./M.P.H. with Temple University’s College of Liberal Arts
- M.S. Health Informatics/M.P.H. within the Temple University College of Public Health
- M.S.W./M.P.H. with the Temple University School of Social Work

For more information, visit https://cph.temple.edu/mph/dual-degrees.

Affiliation(s): Locally, the program has long-standing research affiliations with The Food Trust, Fox Chase Cancer Center, Health Federation of Philadelphia, Philadelphia Department of Public Health, Public Health Management Corporation (PHMC), School District of Philadelphia, Temple University Health System, and numerous other community health agencies.

Study Abroad: Short-term intensive study abroad courses are offered as part of the M.P.H. program of study. These courses are offered during the Summer and are open to both undergraduate and graduate students.

Accreditation: The M.P.H. is fully accredited by the Council on Education for Public Health (CEPH). Achieving accreditation in 1985, Temple’s M.P.H. program is one of the longest established accredited programs in community health in the country.

Areas of Concentration: The MPH-HPM concentrations reflect market needs and expectations in the related areas of health leadership and health policy. Fieldwork in health leadership or in health policy is required as the integrative experience for the program.

Health Leadership: Students who select the concentration in Health Leadership complete four required courses that best fulfill the following competencies with the goal of achieving the Triple Aim:

- Identify and analyze the effects of leadership management styles on organizational performance to ensure a positive patient experience and improve population health.
- Describe financial management and budgeting processes designed to improve financial performance.
- Understand the contribution of information technologies to effective organizational management and improvement of population health.

Health Policy: Students in the Health Policy concentration select courses from a course menu. Only one course constitutes a required course in the concentration: HPM 8014 Comparative Health Policy. Students develop competencies specific to this concentration as follows:

- Health Policy Analysis and Development
- Identification of Population Health Needs and Policy Responses

In addition, a certificate in Global Health is available to all students in the M.P.H. program. Students are able to complete this transcripted concentration by utilizing three elective courses in the general MPH-HPM program for Global Health classes.

Job Prospects: Graduates with an MPH-HPM hold positions in a wide range of health-related settings, including state and local public health departments, federally qualified health centers, hospitals and health systems, community-based organizations, voluntary health agencies, health insurers, clinics, schools, and work sites. Graduates are prepared
to assume leadership positions in a variety of health services and public health organizations. Alumni are employed as environmental health specialists, evaluation specialists, healthcare administrators, HIV/AIDS coordinators, infection control coordinators, marketing specialists, prevention specialists, project directors, research directors, senior health educators, and consultants. Virtually all full-time students are placed within three to six months of graduation.

Licensure: Students who complete an M.P.H. at Temple University are eligible to sit for the Certification in Public Health (CPH) exam and the Certified Health Education Specialist (CHES) exam. For information regarding credentialing in public health, see http://www.nchec.org. Graduates also become eligible for certification and advancement in a number of health professional associations such as the American College of Healthcare Executives.

Non-Matriculated Student Policy: Non-matriculated students are required to speak with an advisor before registering for classes and to obtain the permission of the professor. If accepted to the program, a maximum of three courses may be applied toward the degree program. Exceptions to this policy relate to formal certificate programs.

Financing Opportunities: The College of Public Health and the Department of Health Services Administration and Policy offer a limited number of tuition scholarships to highly qualified applicants.

Limited Teaching Assistantships are available in the College of Public Health. The Graduate School website details levels of support, benefits, and the terms and conditions of these types of graduate student support at http://www.temple.edu/grad/finances/. Assistantships are awarded on a term or annual basis. Students may also be eligible for financial support through the Office of Student Financial Services. See http://sfs.temple.edu/.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

All applicants to the M.P.H. program must apply via the Centralized Application Service for Public Health (SOPHAS). The system can be accessed at https://sophas.liaisoncas.com/.

Applicants should check their application status on the SOPHAS (https://sophas.liaisoncas.com/applicant-ux) portal often and inquire directly of SOPHAS about receipt of materials. For other questions, please contact Theresa White, Senior Graduate Advisor, at theresa.white@temple.edu or 215-204-5105.

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation, which are completed electronically through the SOPHAS (https://sophas.liaisoncas.com/applicant-ux) system, should be obtained from college/university faculty members familiar with academic competence. If the applicant has been out of school for a long time, please ensure that letters are from professional colleagues and that they address academic abilities, such as writing and research.

Coursework Required for Admission Consideration: Applicants' files are reviewed for undergraduate coursework in Mathematics and/or Statistics, Social Science, and writing.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree is required.

Statement of Goals: In 500 to 1,000 words, address the following questions:

• What are your interests in Health Policy and Management, and why are you planning to pursue an M.P.H.?
• What are your future career goals, and what have you done either academically or professionally to guide your interest in Health Policy and Management?
• What is your leadership philosophy? How effective are you at working on interdisciplinary teams?
• Are there any exceptional circumstances related to previous academic performance that you would like the Admissions Committee to consider?

Standardized Test Scores:
GRE: Required. While the program takes a portfolio approach to admissions, standardized tests provide important insight into quantitative and verbal abilities. Minimum scores are 500 (old test) on both the verbal and quantitative sections or, on the new test, 153 on the verbal section and 144 on the quantitative section.

Standardized tests considered in lieu of the GRE include DAT, GMAT, MCAT, OAT, and PCAT. The LSAT, which is also considered for some M.P.H. specialties, is not accepted when applying for Applied Biostatistics or Epidemiology.

TOEFL: 79 iBT or 550 PBT minimum

Clearances: The M.P.H. programs require students to complete clinical/field education experiences at facilities both on and off Temple University’s campuses. These placements may require criminal background checks, Act 33/34 clearances, and perhaps a drug screen. Placements may also require the student to maintain personal health insurance. The results of these requirements may limit and potentially eliminate placement options for the student, thus resulting in her/his inability to meet graduation requirements.

Resume: Current resume or CV required.

Transfer Credit: Graduate credits from an M.P.H. program accredited by the Council on Education for Public Health (CEPH) may be transferred into the M.P.H. The credits must be equivalent to coursework offered at Temple, and the grade must be a “B” or better in order to transfer. The M.P.H. advisor approves the transfer of credits based on a review of course materials provided by the student. The maximum number of credits a student may transfer is 9.

Test Waivers: Graduates with a terminal degree from a U.S. medical school, foreign-trained physicians who have obtained licensure to practice in the United States, and those with a Ph.D. or with an excellent undergraduate record and 7 to 10 years or more of public health or healthcare professional experience may have the GRE requirement waived.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 45

Required Courses:

On-Campus MPH-HPM

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<td>Political and Economic Aspects of Health</td>
<td>3</td>
</tr>
<tr>
<td>SBS 5001</td>
<td>Fundamentals of Public Health</td>
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</tr>
<tr>
<td>SBS 5102</td>
<td>Theoretical Foundations of Health Behavior</td>
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</tr>
<tr>
<td>HPM 5016</td>
<td>Public Health Advocacy</td>
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</tr>
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<td>HPM 5111</td>
<td>Community Outreach in Public Health</td>
<td>3</td>
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<tr>
<td>HPM 5007</td>
<td>Principles of Emergency Management</td>
<td>12</td>
</tr>
<tr>
<td>HPM 5016</td>
<td>Public Health Advocacy</td>
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</tr>
<tr>
<td>HPM 5107</td>
<td>Forced Migration and Refugee Health</td>
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<td>HPM 5111</td>
<td>Community Outreach in Public Health</td>
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</tr>
<tr>
<td>HPM 5202</td>
<td>Man-Made Disasters: Radiological, Chemical and Biological Terrorism</td>
<td>12</td>
</tr>
<tr>
<td>HPM 8014</td>
<td>Comparative Health Policy</td>
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Health Policy and Management Courses

<table>
<thead>
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<td>HPM 8008</td>
<td>Health Economics</td>
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<td>HPM 8013</td>
<td>Research Methods in Health Policy</td>
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<td>HPM 5014</td>
<td>Leadership and Management in Non-Profit Organizations</td>
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<td>Community Outreach in Public Health</td>
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</tr>
<tr>
<td>HPM 5007</td>
<td>Principles of Emergency Management</td>
<td>12</td>
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<tr>
<td>HPM 5016</td>
<td>Public Health Advocacy</td>
<td>12</td>
</tr>
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<td>HPM 5107</td>
<td>Forced Migration and Refugee Health</td>
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<td>HPM 5111</td>
<td>Community Outreach in Public Health</td>
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<td>HPM 5202</td>
<td>Man-Made Disasters: Radiological, Chemical and Biological Terrorism</td>
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<td>HPM 8014</td>
<td>Comparative Health Policy</td>
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Concentration Courses

<table>
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<tr>
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<tbody>
<tr>
<td>HIM 5106</td>
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<td>3</td>
</tr>
<tr>
<td>HIM 5111</td>
<td>Technology for Healthcare Financial Management</td>
<td>3</td>
</tr>
<tr>
<td>HPM 5014</td>
<td>Leadership and Management in Non-Profit Organizations</td>
<td>3</td>
</tr>
<tr>
<td>HPM 5111</td>
<td>Community Outreach in Public Health</td>
<td>3</td>
</tr>
<tr>
<td>HPM 5007</td>
<td>Principles of Emergency Management</td>
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<td>HPM 5016</td>
<td>Public Health Advocacy</td>
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<td>Forced Migration and Refugee Health</td>
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<td>Community Outreach in Public Health</td>
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<td>HPM 5202</td>
<td>Man-Made Disasters: Radiological, Chemical and Biological Terrorism</td>
<td>12</td>
</tr>
<tr>
<td>HPM 8014</td>
<td>Comparative Health Policy</td>
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</table>

Total Credit Hours 45

1 This common College Core course is required of all incoming graduate students in the College of Public Health. It is available completely online and designed such that students can complete the modules at their own pace over the course of their degree program.

Students may elect to complete one of two optional concentrations or, alternately, to complete neither concentration in its totality. In the latter case, the student selects four courses from the course menus for both concentrations. The approved electives are delineated in the grids below:

Health Leadership Concentration

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>HIM 5106</td>
<td>Technology for Population Health</td>
<td>3</td>
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<tr>
<td>HIM 5111</td>
<td>Technology for Healthcare Financial Management</td>
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<tr>
<td>HPM 5014</td>
<td>Leadership and Management in Non-Profit Organizations</td>
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<tr>
<td>HPM 5122</td>
<td>Healthcare Quality and Safety</td>
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<td>Elective</td>
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</table>

Total Credit Hours 12

1 An alternate elective may be selected with the approval of the Program Director.

Health Policy Concentration

<table>
<thead>
<tr>
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<th>Credit Hours</th>
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<tbody>
<tr>
<td>HPM 5007</td>
<td>Principles of Emergency Management</td>
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<tr>
<td>HPM 5016</td>
<td>Public Health Advocacy</td>
<td>12</td>
</tr>
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<td>HPM 5107</td>
<td>Forced Migration and Refugee Health</td>
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<tr>
<td>HPM 5111</td>
<td>Community Outreach in Public Health</td>
<td>12</td>
</tr>
<tr>
<td>HPM 5202</td>
<td>Man-Made Disasters: Radiological, Chemical and Biological Terrorism</td>
<td>12</td>
</tr>
<tr>
<td>HPM 8014</td>
<td>Comparative Health Policy</td>
<td>12</td>
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</table>

Total Credit Hours 12

1 An alternate elective may be selected with the approval of the Program Director.

Online MPH-HPM

Year 1

Fall

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
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<tr>
<td>SBS 5001</td>
<td>Fundamentals of Public Health</td>
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Term Credit Hours 6

Spring

<table>
<thead>
<tr>
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<tbody>
<tr>
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<td>Biostatistics</td>
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<tr>
<td>SBS 5102</td>
<td>Theoretical Foundations of Health Behavior</td>
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</table>

Term Credit Hours 6

Summer

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>EPBI 5101</td>
<td>Fundamentals of Epidemiology</td>
<td>3</td>
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<tr>
<td>SBS 5001</td>
<td>Fundamentals of Public Health</td>
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Term Credit Hours 6

Year 2

Fall

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<tr>
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<tbody>
<tr>
<td>ENVH 5103</td>
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<tr>
<td>HIM 5106</td>
<td>Technology for Population Health</td>
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Term Credit Hours 6

Spring

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<tr>
<th>Code</th>
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<tr>
<td>EPBI 5101</td>
<td>Fundamentals of Epidemiology</td>
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<tr>
<td>SBS 5102</td>
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Term Credit Hours 6

Summer

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<tr>
<td>SBS 5001</td>
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<td>SBS 5102</td>
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Term Credit Hours 6

Year 3

Fall

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<td>HPM 9289</td>
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<tr>
<td>Elective</td>
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Term Credit Hours 6

Spring
Internship: An internship is required as part of a student's M.P.H. fieldwork. Part-time fieldwork experiences are available for full-time employees.

Culminating Events:
Fieldwork Practicum:
M.P.H. fieldwork requires a student to synthesize and integrate the knowledge acquired in coursework and other learning experiences and to apply theory and principles in a situation that approximates some aspect of professional practice through an internship or practicum experience with a public health agency, health services organization, or under the supervision of a faculty preceptor. The M.P.H. fieldwork experience serves as the culminating event as required by the Council on Education for Public Health (CEPH), the accrediting body of all U.S. schools of public health, for completion of the Master of Public Health degree. In addition, this culminating experience provides the student with the opportunity to develop expertise in a topic area and to contribute original and independent observations to a body of knowledge.

For the culminating experience to fulfill the requirements of HPM 9289 and HPM 9389, M.P.H. in Health Policy and Management students are expected to complete a fieldwork experience, which enables them to:

- Apply knowledge and methods in planning, leading, organizing, administering, and evaluating systems, programs, and policies to address health problems that impact populations in the context of the multilevel structures (global, national, state, local, community, agency, organization, group, team, dyad).
- Create and communicate a shared vision for a changing future.
- Champion solutions to organizational and community challenges.
- Energize commitment to goals.
- Demonstrate ethical choices, values, and professional practices implicit in public health decisions.
- Consider the effect of choices on community stewardship, equity, social justice, and accountability.
- Commit to personal and institutional development.
- Recognize system-level properties that result from dynamic interactions among human and social systems and how they affect the relationships among individuals, groups, organizations, communities, and environments.
- Monitor and evaluate the performance of organizations and/or policies that address health problems/issues.
- Use the understanding of the policymaking and policy implementation processes to achieve improvements in the health status of populations.
- Describe the attributes of leadership in public health.

A final paper is the required deliverable for the M.P.H. fieldwork requirement. Students must also demonstrate their proficiency and the application of theory and principles in the paper and demonstrate mastery of the required competencies during the oral defense. The evaluation of the M.P.H. fieldwork practicum experience, therefore, is integrated into the culminating experience requirement.

Contacts
Program Web Address:
https://cph.temple.edu/healthadminpolicy/programs-offered/graduate/health-policy-and-management-mph

Department Information:
Dept. of Health Services Administration and Policy
Ritter Hall Annex, 9th Floor (004-09)
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6005
publichealth@temple.edu
215-204-8726

Submission Address for Application Materials:
https://sophas.liaisoncas.com/

Department Contacts:
Admissions:
CPH Office of Admissions
cph@temple.edu
215-204-5200
Theresa White
Senior Graduate Advisor
theresawhite@temple.edu
215-204-5105

Graduate Program Director:
William Aaronson, Ph.D.
aaronson@temple.edu
215-204-8128

Chairperson:
William Aaronson, Ph.D.
aaronson@temple.edu
215-204-8128

Kinesiology/Athletic Training, M.S.

About the Program
The mission of the post-professional graduate Athletic Training program offered by the Temple University Department of Kinesiology is to expand the applied and experiential knowledge and skills of certified athletic trainers, expand the athletic training body of knowledge, and disseminate new knowledge in the discipline. This program does not allow students to take the Board of Certification exam. Applicants interested in becoming a certified athletic trainer should consider the Master of Science in Athletic Training (M.S.A.T.) degree program.

Time Limit for Degree Completion: 4 years

Campus Location: Main, with at least one course (KINS 8349 Cadaver Anatomy) offered at the Health Sciences Center or School of Podiatric Medicine campus
Full-Time/Part-Time Status: Students are expected to complete their two years of coursework on a full-time basis.

Interdisciplinary Study: Interdisciplinary study is available within the department and through other departments in the University.

Ranking: While rankings of individual programs and the department are not conducted in the profession, the programs at Temple University have excellent reputations. Historically, the Department of Kinesiology’s Athletic Training program is one of only four in the country with bachelor’s, master’s, and doctoral level training. The M.S. program was first accredited in 1988.

Accreditation: The post-professional graduate Athletic Training program at Temple University is accredited by the Commission on Accreditation of Athletic Training Education (CAATE).

Areas of Specialization: The Athletic Training concentration in Kinesiology promotes three areas of distinctiveness: athletic training leadership, brain injury, and evidence-based medicine (EBM) research. These areas are based on program faculty expertise and available facilities.

Job Prospects: Job and advanced degree opportunities are posted on the program’s Canvas page and forwarded to students when received by program faculty. All recent graduates of the M.S. program are working in various clinical settings or seeking advanced degrees.

Licensure: All students working as certified athletic trainers in the Commonwealth of Pennsylvania need to be licensed by the state. For more information about licensure, see http://www.mylicense.state.pa.us.

Non-Matriculated Student Policy: Non-matriculated students are welcome to take classes in the department, assuming they have the requisite knowledge to be successful in the coursework.

Financing Opportunities: Assistantship duties include, but are not limited to, working clinically in a high school setting; teaching activity courses in a variety of movement forms and sports; teaching laboratory sections of undergraduate courses such as Biomechanics or Human Anatomy and Physiology; and serving as a research assistant in a research laboratory.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1

All applicants to the M.S. in Kinesiology with a concentration in Athletic Training must apply via the Athletic Training Centralized Application Service (ATCAS). The system can be accessed at https://atcas.liaisoncas.com. Required Courses:

Letters of Reference:
Number Required: 2

From Whom: Applicants must submit two professional reference letters, along with an email address and telephone number at which each individual can be contacted. Typically, referees are college/university faculty or immediate work supervisor who can provide insight into the applicant’s abilities and talents, as well as comment on her/his aptitude for graduate study.

Bachelor’s Degree in Discipline/Related Discipline: The post-professional graduate Athletic Training program at Temple University is a CAATE-accredited graduate program that is designed to accommodate both BOC-certified athletic trainers and BOC “certification eligible” athletic trainers (i.e., those who graduated from an accredited undergraduate athletic training program). All applicants must present credentials that are the equivalent of the athletic training professional/entry-level degree.

Statement of Goals: A statement of one to two pages should be clearly written and well thought out.

Standardized Test Scores:
GRE/MAT: Required. Scores of 150 each are preferred on the verbal and quantitative sections. Occasionally, students with lower totals are accepted if undergraduate work and/or other life experiences suggest a high degree of probability of success in the graduate program. These scores must be reported directly through ATCAS (https://atcas.liaisoncas.com).

TOEFL: 79 iBT or 550 PBT minimum

Clearances: The Athletic Training M.S. concentration in Kinesiology requires students to complete clinical/field education experiences at facilities both on and off the University campuses. Students are expected to have current PA certification to practice and are required to have immunization records, a physical exam, criminal background checks, and Act 33/34 clearances. Students may also be required to maintain personal health insurance and have a drug screen. The results of these requirements may limit and potentially eliminate placement options for the student, thus resulting in her/his ability to meet graduation requirements. The College cannot ensure clinical field placements if the individual fails to meet the requirements or maintain health insurance.

Interview: An interview is scheduled at a mutually convenient time between the faculty interviewer(s) and the applicant. Master's applicants interview by telephone or video chat.

Resume: Current resume required, including the applicant’s GRE scores, undergraduate GPA, and relevant clinical and research experiences.

Transfer Credit: Relevant graduate courses taken at other accredited universities may be considered for transfer credit to the student's program. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:
Number of Didactic Credits Required Beyond the Baccalaureate: 36

Required Courses:

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>HRPR 5001</td>
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Core Courses

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<tr>
<td>EPSY 8625</td>
<td>Intermediate Educational Statistics</td>
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<tr>
<td>KINS 5202</td>
<td>Biomechanical Skeletal Tissue</td>
<td>3</td>
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<tr>
<td>KINS 8300</td>
<td>Seminar in Athletic Training/Sport Medicine (4 terms)</td>
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<tr>
<td>KINS 8343</td>
<td>Orthopedics in Athletic Training/Sports Medicine</td>
<td>3</td>
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<tr>
<td>KINS 8344</td>
<td>Rehabilitation Methods and Techniques for Sports-Related Injuries</td>
<td>3</td>
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<tr>
<td>KINS 8348</td>
<td>Lab Tech in Ath Train</td>
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KINS 8349  Cadaver Anatomy            3
KINS 9287  Athletic Training/Sports Medicine Practicum I  2
KINS 9288  Athletic Training/Sports Medicine Practicum II 2
KINS 9901  Research Methods in Kinesiology          3
KINS 9995  Master's Research in Kinesiology        3
Independent Research and Elective 2                4

Total Credit Hours 36

1  One credit of KINS 8300 is taken each of the four academic terms of the program.

2  Students have a choice in how to fulfill 4 of the required 36 credits needed to complete the degree program. They may choose to take 4 credits of KINS 9882 Independent Research under the mentorship of an athletic training faculty member. This cannot be related to the student's master's research project and must be approved by the program director. Alternately, they may register for 1 credit of KINS 9882 and a 3-credit elective.

Culminating Events:
Master's Research Project:
The master's research project is a mentored research experience that results in an oral and written defense of results. Taken for 3 credits, KINS 9995 Master's Research in Kinesiology is designed to allow students to create and defend an independent research project that may be published and/or presented at the local, state, and/or national level. Evaluation of the project is by a two-person committee as pass/fail.

Contacts
Program Web Address:
https://cph.temple.edu/kinesiology/programs-offered/graduate/athletic-training-masters

Department Information:
Dept. of Kinesiology
230 Pearson Hall
1800 N. Broad Street
Philadelphia, PA 19121-3302
jmansell@temple.edu
215-204-8707

Submission Address for Application Materials:
https://atcas.liaisoncas.com/

Department Contacts:
Admissions:
CPH Office of Admissions
cph@temple.edu
215-204-5200

Director of Athletic Training Education:
Jamie Mansell, Ph.D., LAT, ATC
jmansell@temple.edu
215-204-2153

Graduate Program Director:
Ryan Tierney, Ph.D.
rtierney@temple.edu

Kinesiology/Integrative Exercise Physiology, M.S.

COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

About the Program
Integrative exercise physiology is a subdiscipline of human physiology that focuses on cardiovascular, metabolic, and neuromuscular responses and adaptations to physical activity. Researchers in the field examine how these body systems coordinate to achieve human movement, and how the movement stimulates the body's adaptive processes in these systems.

The Master of Science in Kinesiology with a concentration in Integrative Exercise Physiology trains students in pragmatic understandings of the field of exercise physiology, including in clinical, sport, and research settings. Students learn to develop and implement research-informed training programs and exercise prescriptions in order to promote and improve physical fitness and health in individuals. A strong foundation in biomedical research prepares future researchers and trains future health professionals to employ evidence-based practices in their work. It is these strengths that set Temple University's Integrative Exercise Physiology program apart:

• Renowned faculty, who are internationally recognized experts in their fields.
• Strong research activity, which ensures that graduates of the program are optimally prepared for future research-based academic training and careers in healthcare industries.
• A dynamic urban environment, which provides students with a wide range of opportunities for internships and practical experience in top-tier healthcare systems and rehabilitation centers across the Philadelphia region.
• An interdisciplinary approach to learning, which engages students with faculty and scholars across many disciplines, including athletic training, nursing, physical therapy, and public health, as well as facilitates inter-professional collaboration.

Time Limit for Degree Completion: 4 years, but students typically complete the program in 2 years.

Campus Location: Main, with classes occasionally offered at Fort Washington. Electives are also offered at the Center City, Ambler, and Health Sciences Center campuses.

Full-Time/Part-Time Status: Students are strongly encouraged to complete coursework on a full-time basis.

Interdisciplinary Study: Interdisciplinary study is available within the department and through other departments in the University.

Areas of Specialization: This degree is offered by the Department of Kinesiology in Temple University's College of Public Health. Faculty research emphases within the department include:

• adaptation of tissues to stress and overuse;
• biomarkers associated with sub-concussive cerebrovascular injury;
• exercise addiction;
• human balance and locomotion;
• molecular and cellular mechanisms of cardiovascular and muscle adaptation to exercise;
• neural mechanisms of muscle coordination in human upper extremities;
• sensorimotor, perceptual, and psychological influences on human movement control; and
• sport-related concussion.

**Job Prospects:** Many graduates of the program apply to research-intensive doctoral programs, such as the Ph.D. in Kinesiology with a concentration in Integrative Exercise Physiology, and ultimately become exercise scientists and clinical researchers. Students interested in clinical practice can pursue careers as clinical exercise physiologists who conduct assessments of patients’ cardiovascular, pulmonary, and skeletal muscle systems. Exercise physiologists may work in hospitals and rehabilitation centers as part of a healthcare team, with their work contributing to the identification of disease. Graduates can also pursue roles as personal trainers who work with clients to ensure that they exercise in the most effective and safe ways.

**Non-Matriculated Student Policy:** Non-matriculated students are welcome to take classes in the department, assuming they have the requisite knowledge to be successful in the coursework.

**Financing Opportunities:** Assistantship duties include, but are not limited to, teaching activity courses in a variety of movement forms and sports; teaching laboratory sections of undergraduate courses such as Biomechanics, Human Anatomy and Physiology, and Physiology of Exercise; serving as a research assistant in a research laboratory; or acting as an administrative assistant to a department administrator.

**Admission Requirements and Deadlines**

**Application Deadline:**

**Fall:** March 1

All applicants to the M.S. in Kinesiology with a concentration in Integrative Exercise Physiology must apply via the Centralized Application Service for Public Health (SOPHAS). The system can be accessed at https://sophas.liaisoncas.com/.

**Letters of Reference:**

**Number Required:** 3

**From Whom:** Letters should be obtained from college/university faculty or an immediate work supervisor who can provide insight into your abilities and talents, as well as comment on your aptitude for graduate study.

**Coursework Required for Admission Consideration:** An academic background in biological sciences, exercise science, kinesiology, or physical education is preferred.

**Bachelor’s Degree in Discipline/Related Discipline:** All applicants must have a bachelor’s degree with a minimum cumulative GPA of 3.0.

**Statement of Goals:** A statement of one to two pages should be clearly written.

**Standardized Test Scores:**

GRE/MAT: Required. The GRE score must total a minimum of 300 combined on the verbal and quantitative sections. Official GRE scores should be sent to SOPHAS (https://sophas.liaisoncas.com/applicant-ux) using code 0151.

TOEFL: For applicants whose native language is not English, the TOEFL is required with a minimum score of 79 on the iBT. These scores should be sent officially to SOPHAS using the SOPHAS-specific TOEFL code of 5688.

**Clearances:** Students in the Integrative Exercise Physiology M.S. concentration in Kinesiology have the option to complete clinical/field education experiences at facilities both on and off Temple University’s campuses. These placements may require criminal background checks, Act 33/34 clearances, and perhaps a drug screen. Many may also require students to have personal health insurance. Not meeting these requirements may limit and potentially eliminate placement options for the student, thus requiring her/his ability to meet graduation requirements. The College cannot ensure clinical field placements if the individual fails to meet the requirements or maintain health insurance. Additionally, conviction of a misdemeanor, felony, or felonious or illegal act may prevent the individual from becoming credentialed and licensed to practice.

**Interview:** An interview may be required.

**Resume:** Current resume required.

**Transfer Credit:** Relevant graduate courses taken at other accredited universities may be considered for transfer credit to the student’s program. The maximum number of credits a student may transfer is 6.

**Program Requirements**

**General Program Requirements:**

**Number of Credits Required to Earn the Degree:** 30

**Required Courses:**

<table>
<thead>
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<td>Physiology of Exercise</td>
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<td>KINS 9201</td>
<td>Cardiovascular Exercise Physiology</td>
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<tr>
<td>KINS 9203</td>
<td>Appl Ex Physio-Neuromusc</td>
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<td>KINS 9901</td>
<td>Research Methods in Kinesiology</td>
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<td>KINS 5202</td>
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<td>KINS 5312</td>
<td>Exercise and Nutrient Metabolism</td>
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<td>KINS 5313</td>
<td>Exercise and Aging</td>
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<td>KINS 8349</td>
<td>Cadaver Anatomy</td>
<td></td>
</tr>
<tr>
<td>KINS 9204</td>
<td>Cellular Adapt to Exer</td>
<td></td>
</tr>
</tbody>
</table>

Other KINS electives or graduate courses in other departments

**Culminating Experience Courses**

**Total Credit Hours**

30

1 Electives may be taken to tailor graduate coursework to the interests and skills of the student. Approval of the faculty advisor is required to select an elective course.
Students choose from among three options to complete the degree: a thesis, a master's research project, or a clinical practicum. Each option requires the completion of 6 credits, as explained in the section below.

**Culminating Events:**

**Thesis Option:**
The thesis is designed to demonstrate the student's ability to collect data and present results in a scholarly manner. KINS 9995 Master's Research in Kinesiology is taken for 3 credits, as is KINS 9996 Master's Thesis in Kinesiology. Students schedule a defense with their three-person committee after the thesis advisor has approved the thesis as ready for defense. Overall evaluation is pass/fail, with recommendations for improvements of the thesis offered as a result of faculty review and discussion at the thesis defense.

**Master's Research Project Option:**
The master's research project option is a mentored research experience that may result in a publication or a summary document of the research experience. Taken for 3 credits, KINS 9995 Master's Research in Kinesiology is designed to offer flexibility for students who wish to be actively involved with research, but do not want to engage in research at the level expected for a thesis. Evaluation of the project is by a two-person committee as pass/fail. To earn the 3 other required credits, students in the master's research project option take an additional elective.

**Clinical Practicum Option:**
KINS 9785 Internship in Kinesiology is a 300-hour (6 credits) supervised applied experience. The clinical practicum offers students the opportunity to engage in more applied work. Evaluation of the experience is by the major professor, based on a submitted portfolio of materials completed during the experience.

**Contacts**

**Program Web Address:**
https://cph.temple.edu/kinesiology/programs-offered/graduate/integrative-exercise-physiology

**Department Information:**
Dept. of Kinesiology
230 Pearson Hall
1800 N. Broad Street
Philadelphia, PA 19121-3302
rtierney@temple.edu
215-204-8707

**Submission Address for Application Materials:**
https://sophas.liaisoncas.com/

**Department Contacts:**

*Admissions*
CPH Office of Admissions
cph@temple.edu
215-204-5200

*Academic Coordinator*
Joseph Hines
tua47376@temple.edu

215-204-6204

**Graduate Program Director:**
Ryan Tierney, Ph.D.
rtierney@temple.edu
215-204-4001

**Kinesiology/Psychology of Movement, M.S.**

**COLLEGE OF PUBLIC HEALTH**

**About the Program**

This program is not accepting applications for the 2018-2019 academic year.

**Kinesiology/Athletic Training, Ph.D.**

**COLLEGE OF PUBLIC HEALTH**

**About the Program**

In the research-intensive Ph.D. program in Kinesiology with a concentration in Athletic Training, students conduct original scientific inquiry and contribute new knowledge to the disciplines of athletic training and sports medicine. The program is designed for certified athletic trainers who want to use advanced biomedical research methods to evaluate accepted clinical practice and enhance the proficiency of sports injury prevention, treatment, and rehabilitation in physically active populations. Students collaborate with internationally renowned faculty members on innovative research that examines sport-related concussion and sub-concussive head impact. Many students develop their own research agendas in this area. The program's research strengths also include tissue adaptation to stress and overuse, sensorimotor control systems, and sports policy development, among other areas.

These strengths set Temple University's Athletic Training program apart:

- Our unique research-based doctoral program is one of the only programs of its kind in the nation, giving certified athletic trainers unparalleled opportunities to engage in intellectually rigorous research under the guidance and mentorship of expert faculty members.
- Flexibility in shaping one's research interests is made possible through a wide range of elective courses that integrates multiple fields of research. Faculty have expertise in athletic training, physical therapy, public health, and more.
- Preparation for a successful academic career is fostered through mastery of biostatistical and kinesiology research methods, as well as grantsmanship experience that includes identifying funding sources, preparing grant applications, and navigating the application process. While pursuing the Ph.D., students can also enroll in the Teaching in Higher Education certificate program (https://teaching.temple.edu/teaching-certificates/teaching-higher-education-certificate-teachers-and-professionals), offered by Temple University's Center for the Advancement of Teaching.

**Time Limit for Degree Completion:** 7 years, but students can complete the program in 4 years.
Interdisciplinary Study: Interdisciplinary study is available within the department and through other departments in the University.

Ranking: While rankings of individual programs and the department are not conducted in the profession, the programs at Temple University have excellent reputations. Historically, the Department of Kinesiology's Athletic Training program is one of only four in the country with bachelor's-, master's-, and doctoral-level training.

Areas of Specialization: This degree is offered by the Department of Kinesiology at Temple's College of Public Health. Faculty research emphases within the department include:

- adaptation of tissues to stress and overuse;
- biomarkers associated with sub-concussive cerebrovascular injury;
- exercise addiction;
- human balance and locomotion;
- molecular and cellular mechanisms of cardiovascular adaptation to exercise;
- neural mechanisms of muscle coordination in human upper extremities;
- sensorimotor, perceptual, and psychological influences on human movement control;
- sport-related concussion and mild traumatic brain injury;
- shoulder injury research, particularly in professional baseball; and
- policy development in sport.

Job Prospects: This Ph.D. program prepares students for research and teaching careers at institutions of higher education and research, including Carnegie I institutions, as well as advanced clinical roles in athletic training and sports medicine. Under the guidance of faculty mentors, students hone a research agenda; prepare publications and present research at national and regional conferences; and develop grantsmanship expertise. These experiences position our doctoral students to be competitive candidates for academic and research careers.

Non-Matriculated Student Policy: Non-matriculated students are permitted to take up to 9 credits in the department, provided they have the requisite knowledge to be successful in the coursework.

Financing Opportunities: The department offers all accepted doctoral students a competitive level of support, including tuition, stipend, and health insurance, for four years. Graduate assistantships sponsored by the College of Public Health include:

- Research assistantships: RAs perform supervised research activities and work with faculty on grant proposals and ongoing research. Through these experiences, students develop both research and grant-writing competencies.
- Teaching assistantships: TAs assist in teaching courses, including grading exams and papers or teaching lab sections. TAs learn current pedagogies that prepare them for academic teaching. They can also receive certification in higher education instruction.

Highly qualified candidates are nominated for university fellowships, and candidates from underrepresented groups can be nominated for Future Faculty Fellow program (https://www.temple.edu/grad/finances/fff_program.htm).

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1

All applicants to the Ph.D. in Kinesiology with a concentration in Athletic Training must apply via the Centralized Application Service for Public Health (SOPHAS). The system can be accessed at https://sophas.liaisoncas.com/.

Letters of Reference:

Number Required: 3

From Whom: Letters should be obtained from college/university faculty or an immediate work supervisor who can provide insight into your abilities and talents, as well as comment on your aptitude for graduate study.

Coursework Required for Admission Consideration: All applicants must be certified athletic trainers via the procedures specified by the Board of Certification.

Master's Degree in Discipline/Related Discipline: Most applicants have a master’s degree in biological sciences, exercise science, kinesiology, medicine, physical therapy, physiology, or a related field.

Bachelor's Degree in Discipline/Related Discipline: All applicants must have a bachelor’s degree with a minimum cumulative GPA of 3.25 on a 4.0 scale.

Statement of Goals: A statement of one to two pages should be clearly written.

Standardized Test Scores:

GRE/MAT: Required. The GRE score must total a minimum of 300 combined on the verbal and quantitative sections. Official GRE scores should be sent to SOPHAS (https://sophas.liaisoncas.com/applicant-ux) using code 0151.

TOEFL: For applicants whose native language is not English, the TOEFL is required with a minimum score of 79 on the iBT. These scores should be sent officially to SOPHAS (https://sophas.liaisoncas.com/applicant-ux) using the SOPHAS-specific TOEFL code of 5688.

Interview: An interview may be required.

Resume: Current resume required.

Writing Sample: This required paper/article should be no more than 15 pages in length. The topic should be relevant to kinesiology, but is otherwise flexible.

Advanced Standing: Students who enter the doctoral program with the master's degree may receive advanced standing toward the Ph.D. degree. The maximum number of advanced standing credits awarded is 9.

Program Requirements

General Program Requirements:

Number of Credits Required to Earn the Degree: 45

Required Courses:
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<tr>
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<th>Credit Hours</th>
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<td>EPBI 5002</td>
<td>Biostatistics</td>
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<td>EPBI 8012</td>
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<td>HRPR 5999</td>
<td>Research Experience in Health Professions</td>
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<tr>
<td>KINS 8300</td>
<td>Seminar in Athletic Training/Sport Medicine</td>
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<tr>
<td>KINS 8348</td>
<td>Lab Tech in Ath Train</td>
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<td>KINS 8349</td>
<td>Cadaver Anatomy</td>
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<td>KINS 9901</td>
<td>Research Methods in Kinesiology</td>
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<tr>
<td>PHTH 8521</td>
<td>Neuroscience</td>
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<tr>
<td>or PHTH 9645</td>
<td>Advanced Musculoskeletal Anatomy</td>
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</table>

Electives 15

Select courses from the following totalling a minimum of 15 credits:

- EPSY 5529 Tests and Measurements
- EPSY 8827 Experimental Design
- KINS 5202 Biomechanical Skeletal Tissue
- KINS 5311 Physiology of Exercise
- KINS 5312 Exercise and Nutrient Metabolism
- KINS 5313 Exercise and Aging
- KINS 8343 Orthopedics in Athletic Training/Sports Medicine
- KINS 8344 Rehabilitation Methods and Techniques for Sports-Related Injuries
- KINS 9201 Cardiovascular Exercise Physiology
- KINS 9203 Appl Ex Physio-Neuromusc
- KINS 9204 Cellular Adap to Exer
- KINS 9401 Psychological Bases of Motor Behavior
- KINS 9402 Psychology of Human Motivation and Development
- KINS 9882 Independent Research
- MEDS 5003 Fundamentals of Biochem
- MEDS 5006 Microbio and Immunology
- MEDS 8004 Macromolecules
- PSY 8041 Factor Analysis and Scaling

Other KINS electives or graduate courses in other departments 1

Non-Didactic Courses

- KINS 9994 Preliminary Examination Preparation 1
- KINS 9998 Dissertation Proposal Research 2
- KINS 9999 Doctoral Dissertation in Kinesiology 3

Total Credit Hours 45

1 Electives may be taken to tailor graduate coursework to the interests and skills of the student. Approval of two graduate faculty members is required to select an elective course.

Culminating Events:

Preliminary Examination:

All Ph.D. candidates in Kinesiology must complete the preliminary examination, which includes two requirements:

1. successful completion of a set of four questions that examine the doctoral student’s competency in her/his subdiscipline, and
2. submission of a research article of publishable quality, as first author, to a refereed journal.

Note that a literature review does not fulfill the second requirement.

Proposal:

The dissertation proposal encompasses the first part of the dissertation: introduction, review of literature, and methodology. It is a substantive document that spells out clearly the rationale for the research, reviews the literature, and precisely identifies the methodology to be used in answering the research problem. The proposal is reviewed and approved by the Doctoral Advisory Committee (DAC), which is composed of three Graduate Faculty members. Two of the DAC members, including the chair, must be Graduate Faculty in the student’s degree program.

Dissertation:

The dissertation represents an original research study that provides a substantive contribution to the literature and is worthy of publication. As such, it is a rigorous examination of a research problem that requires extensive investigation, using quantitative and/or qualitative methodology. The Dissertation Examining Committee (DEC) must include the chair and all members of the DAC and two additional readers, one of whom must be from outside the department and not previously involved with the dissertation writing or DAC. The defense is scheduled at the mutual convenience of the student and the members of the DEC. Notice is provided to the College of Public Health, which completes the necessary paperwork to announce the defense date, time, and location. The DEC reviews and discusses the defense. Overall evaluation of pass/fail with recommendations for improvements of the dissertation result.

Contacts

Program Web Address:

https://cph.temple.edu/kinesiology/programs-offered/graduate/athletic-training-masters

Department Information:

Dept. of Kinesiology
230 Pearson Hall
1800 N. Broad Street
Philadelphia, PA 19121-3302
jmansell@temple.edu
215-204-8707

Submission Address for Application Materials:

https://sophas.liaisoncas.com/

Department Contacts:

Admissions:
CPH Office of Admissions
cph@temple.edu
215-204-5200

Academic Coordinator:
Joseph Hines
tua47376@temple.edu
215-204-6204

Program Coordinators:
Jamie Mansell, Ph.D., LAT, ATC
Kinesiology/Integrative Exercise Physiology, Ph.D.

About the Program

The research-intensive Ph.D. program in Kinesiology with a concentration in Integrative Exercise Physiology trains students to conduct intellectually rigorous biomedical research on physiological responses to exercise and physical activity, specifically at the molecular and cellular levels. Students collaborate with internationally renowned faculty members on research that examines:

- the molecular links between specific types of exercise interventions and disease prevention;
- the precise mechanisms by which exercise promotes whole-body health; and
- the pathogenic processes underpinning cardiovascular, neuromuscular, and metabolic disorders associated with physical activity.

These strengths set Temple University’s Integrative Exercise Physiology program apart:

- Exceptional faculty are recognized experts in translational exercise biology, muscle physiology, sensorimotor control systems, and strength and conditioning.
- Top-tier research facilities with state-of-the-art kinesiology and biomedical science research technology ensure students become competitive candidates for postdoctoral training and future research careers.
- Interdisciplinary collaboration provides students with opportunities to establish unique research agendas that integrate expertise from multiple fields of research, such as athletic training, physical therapy, public health, and more.
- Preparation for a successful academic career is fostered through grantsmanship experience that includes identifying funding sources, preparing grant applications, and navigating the application process. While pursuing the Ph.D., students can also enroll in the Teaching in Higher Education certificate program (https://teaching.temple.edu/teaching-certificates/teaching-higher-education-certificate-teachers-and-professionals), offered by Temple University’s Center for the Advancement of Teaching.

Time Limit for Degree Completion: 7 years, but students entering with a master’s degree can complete the program in 3 to 4 years.

Campus Location: Main, with classes occasionally offered at Fort Washington. Electives are also offered at the Center City, Ambler, and Health Sciences Center campuses.

Full-Time/Part-Time Status: Full-time study is required.

Interdisciplinary Study: Interdisciplinary study is available within the department and through other departments in the University.

Areas of Specialization: This degree is offered by the Department of Kinesiology in Temple University’s College of Public Health. Faculty research emphases within the department include:

- adaptation of tissues to stress and overuse;
- biomarkers associated with sub-concussive cerebrovascular injury;
- exercise addiction;
- human balance and locomotion;
- molecular and cellular mechanisms of cardiovascular adaptation to exercise;
- neural mechanisms of muscle coordination in human upper extremities;
- sensorimotor, perceptual, and psychological influences on human movement control; and
- sport-related concussion.

Job Prospects: The Ph.D. program prepares students for research and teaching careers at institutions of higher education, including Carnegie I institutions, as well as in relevant healthcare industries. Under the guidance of faculty mentors, students hone a research agenda; prepare publications and present research at national and regional conferences; and develop grantsmanship expertise. These experiences position our doctoral students to be competitive candidates for postdoctoral training pathways or biomedical scientist job opportunities, which are standard precursors to academic and research careers.

Non-Matriculated Student Policy: Non-matriculated students are welcome to take classes in the department, assuming they have the requisite knowledge to be successful in the coursework.

Financing Opportunities: The department offers all accepted doctoral students a competitive level of support, including tuition, stipend, and health insurance, for four years. Graduate assistantships sponsored by the College of Public Health include:

- Research assistantships: RAs perform supervised research activities and work with faculty on grant proposals and ongoing research. Through these experiences, students develop both research and grant-writing competencies.
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Highly qualified candidates are nominated for presidential or university fellowships, and candidates from underrepresented groups can be nominated for Future Faculty Fellowships (https://www.temple.edu/graduate/finances/fff_program.htm).

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
All applicants to the Ph.D. in Kinesiology with a concentration in Integrative Exercise Physiology must apply via the Centralized Application Service for Public Health (SOPHAS). The system can be accessed at https://sophas.liaisoncas.com/.

Letters of Reference:
Number Required: 3

From Whom: Letters should be obtained from college/university faculty or an immediate work supervisor who can provide insight into your abilities and talents, as well as comment on your aptitude for graduate study.

Coursework Required for Admission Consideration: It is preferred that applicants have completed laboratory courses in biology, chemistry, human anatomy and physiology, and physics.

Master’s Degree in Discipline/Related Discipline: Most applicants have a master’s degree in biological sciences, exercise science, kinesiology, medicine, physical therapy, physiology, or a related field.

Bachelor’s Degree in Discipline/Related Discipline: All applicants must have a bachelor’s degree with a minimum cumulative GPA of 3.25 on a 4.0 scale.

Statement of Goals: A statement of one to two pages should be clearly written.

Standardized Test Scores:
GRE/MAT: Required. The GRE score must total a minimum of 300 combined on the verbal and quantitative sections. Official GRE scores should be sent to SOPHAS (https://sophas.liaisoncas.com/applicant-ux) using code 0151.

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Interview: An interview may be required.

Resume: Current resume required.

Writing Sample: This required paper/article should be no more than 15 pages in length. The topic should be relevant to kinesiology, but is otherwise flexible.

Advanced Standing: Students who enter the doctoral program with the master’s degree may receive advanced standing toward the Ph.D. degree. The maximum number of advanced standing credits awarded is 9.

Program Requirements

General Program Requirements:
Number of Credits Required to Earn the Degree: 45

Required Courses:

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<td>Research Experience in Health Professions</td>
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<td>BIOL 5254</td>
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<td>BIOL 5301</td>
<td>Cell Biology</td>
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<td>BIOL 5403</td>
<td>Genomics</td>
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<td>BIOL 5433</td>
<td>Advanced Techniques in Microscopy</td>
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<td>BIOL 5454</td>
<td>Neurological Basis of Animal Behavior</td>
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<td>BIOL 5467</td>
<td>Endocrinology</td>
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<tr>
<td>BIOL 5471</td>
<td>Cell Proliferation</td>
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<tr>
<td>BIOL 5475</td>
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<td>BMSC 8001</td>
<td>Introduction to Biochemistry and Molecular Biology</td>
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<td>Introduction to Cell Biology and Immunology</td>
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<td>BMSC 8003</td>
<td>Introduction to Molecular and Cell Biology</td>
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<td>BMSC 8101</td>
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<td>Organ Systems: Function, Dysfunction and Therapeutics</td>
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<td>Cell Structure &amp; Function</td>
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<td>BMSC 8803</td>
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<td>BMSC 8902</td>
<td>Mechanisms of Cardiovascular Pathophysiology</td>
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<td>BMSC 8906</td>
<td>Development, Function and Diseases of the Musculoskeletal System</td>
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<td>KINS 5202</td>
<td>Biomechanical Skeletal Tissue</td>
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<td>KINS 5312</td>
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<td>MEDS 5003</td>
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<td>MEDS 5004</td>
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Non-Didactic Courses

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<td>KINS 9994</td>
<td>Preliminary Examination Preparation</td>
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<tr>
<td>KINS 9998</td>
<td>Dissertation Proposal Research</td>
<td>2</td>
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<tr>
<td>KINS 9999</td>
<td>Doctoral Dissertation in Kinesiology</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours 45

1 HRPR 5999 is taken twice.
Electives may be taken to tailor graduate coursework to the interests and skills of the student. Approval of two graduate faculty members is required to select an elective course.

Culminating Events:

Preliminary Examination:
All Ph.D. candidates in Kinesiology must complete the preliminary examination, which includes two requirements:

1. successful completion of a set of four questions that examine the doctoral student's competency in her/his subdiscipline, and
2. submission of a research article of publishable quality, as first author, to a refereed journal.

Note that a literature review does not fulfill the second requirement.

Proposal:
The dissertation proposal encompasses the first part of the dissertation: introduction, review of literature, and methodology. It is a substantive document that spells out clearly the rationale for the research, reviews the literature, and precisely identifies the methodology to be used in answering the research problem. The proposal is reviewed and approved by the Doctoral Advisory Committee (DAC), which is composed of three Graduate Faculty members. Two of the DAC members, including the chair, must be Graduate Faculty in the student’s degree program.

Dissertation:
The dissertation represents an original research study that provides a substantive contribution to the literature and is worthy of publication. As such, it is a rigorous examination of a research problem that requires extensive investigation, using quantitative and/or qualitative methodology. The Dissertation Examining Committee (DEC) must include the chair and all members of the DAC and at least one external examiner not previously involved with the dissertation writing or DAC. The defense is scheduled at the mutual convenience of the student and the members of the DEC. Notice is provided to the College of Public Health, which completes the necessary paperwork to announce the defense date, time, and location. The DEC reviews and discusses the defense. Overall evaluation of pass/fail with recommendations for improvements of the dissertation result.

Contacts

Program Web Address:
https://cph.temple.edu/kinesiology/programs-offered/graduate/Integrative
exercise-physiology

Department Information:
Dept. of Kinesiology
230 Pearson Hall
1800 N. Broad Street
Philadelphia, PA 19121-3302
rtierney@temple.edu
215-204-8707

Submission Address for Application Materials:
https://sophas.liaisoncas.com/

Department Contacts:
Admissions:

CPH Office of Admissions
cph@temple.edu
215-204-5200

Academic Coordinator:
Joseph Hines
tua47376@temple.edu
215-204-6204

Graduate Program Director:
Ryan Tierney, Ph.D.
rtierney@temple.edu
215-204-4001

Kinesiology/Psychology of Movement, Ph.D.

COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

About the Program

This program is not accepting applications for the 2018-2019 academic year.

Neuromotor Science, M.S.

COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

About the Program

The study of human movement, both as an outcome of health and functioning and as a means to understand the mechanisms underlying neuromotor system integration and behavior, is foundational to many health professions. The skills needed to be successful in fields of related study require fluency across the disciplines of engineering, movement science, neuroscience, and rehabilitation. The need exists for rigorously trained scientists with interdisciplinary training in neuromechanics, neurobiology, and biomechanics of the sensorimotor system, and the impact of health conditions, disease, and disability on human movement. Our Neuromotor Science (NMS) program trains scientists to advance the science of neuromotor control and biomechanics of human posture and movement in individuals across the lifespan and spectrum of health and disability levels. The M.S. in Neuromotor Science (MS NMS) program is designed for individuals in the fields of Engineering, Exercise Science, Kinesiology, Occupational Therapy, Physical Therapy, Rehabilitation Science, and the like, preparing them to:

- advance the science and understanding of neuromotor processes, including assessment and evaluation of movement, neuromotor function and integration, and its impact on movement on health, functioning, and disability; and
- contribute to the development of interventions to improve human movement, particularly posture and locomotor control and function across the lifespan.

Time Limit for Degree Completion: 5 years

Campus Location: Main, Health Sciences Center

Full-Time/Part-Time Status: While full-time study is encouraged at the master’s level, this research-focused degree program can be completed
in 2 years with full-time study (9 credits per term) or 3 to 4 years if enrolled part-time.

MS NMS students are initially advised by the Program Director during admission and in the first term if an academic advisor has not been identified. Within two terms of matriculation, students are assigned an academic advisor from the core program faculty — or an available Graduate Faculty member with expertise in the student's cognate area, as approved by the Program Director. Students develop an "Individualized Development Plan of Graduate Studies," which is reviewed with their advisor every term, and by the NMS Program Director and/or the Program Advisory Committee on an annual basis.

Interdisciplinary Study: Students may use their elective coursework to pursue interdisciplinary study throughout the University. The MS NMS program participates in the interdisciplinary program in Neuroscience at Temple University.

Areas of Specialization: All students complete the same core course requirements, but may focus their elective coursework and research experiences on preparing them for future work in areas related to their specific interests.

Job Prospects: Graduates from the MS NMS degree program are prepared for employment in clinical research, as faculty in professional programs, or in industry positions. In addition, the M.S. degree provides a strong foundation for students to continue their studies at the Ph.D. level.

Non-Matriculated Student Policy: Non-matriculated students may enroll in up to three graduate courses with permission from the NMS Program Director.

Financing Opportunities: Assistantship packages consisting of a stipend, tuition remission, and subsidized health benefits are available. Admission to the MS NMS program does not, however, guarantee financial support. Research and Teaching Assistantships are highly competitive, with awards varying based on faculty-funded areas of research and the teaching needs of the College. Please contact the NMS Program Director for additional information.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

All applicants to the M.S. in Neuromotor Science program must apply via the Centralized Application Service for Public Health (SOPHAS). The system can be accessed at https://sophas.liaisoncas.com/

Letters of Reference:

Number Required: 3
From Whom: Letters of recommendation should be obtained from individuals who can speak to the applicant's potential for graduate study. At least one should be from a faculty member who is familiar with the applicant’s academic abilities.

Bachelor's Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of a baccalaureate degree at Temple University.

For applicants who completed their degree outside of the United States, a World Education Services (WES) (https://www.wes.org) course-by-course transcript evaluation is required. This can be requested and submitted through SOPHAS (https://sophas.liaisoncas.com/applicant-ux).

Statement of Goals: A one-page statement articulates why you want to enroll in the MS NMS program at Temple. State your career goals and research interests.

Standardized Test Scores:

GRE: Required. Scores from a test taken within the last 5 years must be at or above the 50th percentile in the verbal and quantitative components, with a score of 4 or higher on the writing component. Official scores should be sent directly to SOPHAS (https://sophas.liaisoncas.com/applicant-ux) using code 0151.

TOEFL: For applicants whose native language is not English, the TOEFL is required with a minimum score of 79 iBT. TOEFL scores should be sent officially to SOPHAS (https://sophas.liaisoncas.com/applicant-ux) using the SOPHAS-specific TOEFL code of 5688.

Interview: Students may be invited to interview with the program faculty. An interview may take place in person or through technology if costs prohibit travel to Temple.

Resume: Current resume or CV required.

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<td>HRPR 5001</td>
<td>Current and Emerging Issues in Public Health and Health Professions</td>
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<tr>
<td>NMS 9621</td>
<td>Neuromotor Science 1: Neural Factors</td>
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<td>NMS 9622</td>
<td>Neuromotor Science: Instrumentation</td>
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<td>NMS 9623</td>
<td>Neuromotor Science: Programming</td>
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<td>Neuromotor Science 2: Mechanics and Models</td>
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<td>Neuromotor Science 3: Cognition and Learning</td>
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<td></td>
<td>Statistics and Research Design Course</td>
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<tr>
<td>NMS 9654</td>
<td>Neuromotor Science: Laboratory Rotation and Seminar</td>
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</tbody>
</table>

Electives ¹

Total Credit Hours 30

¹ Electives are chosen from existing 5000, 8000, or higher level courses to provide a cognate area based on the student’s interest in, for example, engineering, kinesiology, neuroscience, psychology, public health, rehabilitation science, or teaching in higher education. Not all courses listed in the course descriptions for this program are available to MS NMS students. The Program Director and faculty advise on and approve the selection of electives.

Culminating Events: Successful completion of coursework constitutes the culminating event.
Contacts

Program Web Address:
https://cph.temple.edu/neuromotor-science/programs-offered/neuromotor-science-ms

Department Information:
Dept. of Physical Therapy
Ritter Hall Annex, 6th Floor
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
depptpt@temple.edu
215-204-9066

Mailing Address for Application Materials:
Neuromotor Science Program
Dept. of Physical Therapy
1301 Cecil B. Moore Avenue, Ritter Hall Annex, 6th Floor (004-00)
Philadelphia, PA 19122-6091

Department Contacts:
Program Directors:
W. Geoffrey Wright, Ph.D.
wrightw@temple.edu
215-204-9066

Carole A. Tucker, PT, Ph.D.
tuckerc@temple.edu
215-204-9009

Neuromotor Science, Ph.D.

COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

About the Program

The study of human movement, both as an outcome of health and functioning and as a means to understand the mechanisms underlying neuromotor system integration and behavior, is foundational to many health professions. The skills needed to be successful in fields of related study require fluency across the disciplines of engineering, movement science, neuroscience, and rehabilitation. The need exists for rigorously trained scientists with interdisciplinary training in neuromechanics, neurobiology, and biomechanics of the sensorimotor system, and the impact of health conditions, disease, and disability on human movement. Our Neuromotor Science (NMS) program trains scientists to advance the science of neuromotor control and biomechanics of human posture and movement in individuals across the lifespan and spectrum of health and disability levels. The Ph.D. in Neuromotor Science (PhD NMS) program is designed for individuals in the fields of Engineering, Exercise Science, Kinesiology, Occupational Therapy, Physical Therapy, Rehabilitation Science, and the like, preparing them to:

- advance the science and understanding of neuromotor processes, including assessment and evaluation of movement, neuromotor function and integration, and its impact on movement on health, functioning, and disability, and
- contribute to the development of interventions to improve human movement, particularly posture and locomotor control and function across the lifespan.

Time Limit for Degree Completion: 7 years

Campus Location: Main, Health Sciences Center

Full-Time/Part-Time Status: Full-time study is expected. This research-focused doctoral degree program requires 4 to 7 years of full-time study post-baccalaureate or 2 to 3 years of full-time study after completion of the M.S. in Neuromotor Science degree.

PhD NMS students are initially advised by the Program Director during admission and in the first term if an academic advisor has not been identified. Within two terms of matriculation, students are assigned an academic advisor from the core program faculty — or an available Graduate Faculty member with expertise in the student’s cognate area, as approved by the Program Director. Students develop an "Individualized Development Plan of Graduate Studies," which is reviewed with their advisor every term, and by the NMS Program Director and/or the Program Advisory Committee on an annual basis.

Interdisciplinary Study: Students may use their elective coursework to pursue interdisciplinary study throughout the University. The PhD NMS program participates in the interdisciplinary program in Neuroscience at Temple University.

Areas of Specialization: All students complete the same core course requirements, but may focus their elective coursework and research experiences on preparing them for future work in areas related to their specific interests.

Job Prospects: Graduates of the PhD NMS degree program are prepared for research or teaching/research positions at Carnegie Research I institutions. They are also prepared for employment as faculty members in other academic settings, in clinical research settings, or in industry positions.

Non-Matriculated Student Policy: Non-matriculated students may enroll in up to three graduate courses with permission from the NMS Program Director.

Financial Opportunities: Assistantship packages consisting of a stipend, tuition remission, and subsidized health benefits are available. Admission to the PhD NMS program does not, however, guarantee financial support. Research and Teaching Assistantships are highly competitive, with awards varying based on faculty-funded areas of research and the teaching needs of the College. Please contact the NMS Program Director for additional information.

Admission Requirements and Deadlines

Application Deadline:
Fall: January 5
Spring: November 1

All applicants to the Ph.D. in Neuromotor Science program must apply via the Centralized Application Service for Public Health (SOPHAS). The system can be accessed at https://sophas.liaisoncas.com/. Applications received after the stated deadlines will be reviewed as space and funding allow.

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from individuals who can speak to the applicant’s potential for graduate study.
At least one should be from a faculty member who is familiar with the applicant’s academic abilities.

**Master’s Degree in Discipline/Related Discipline:** A master’s degree is not required.

**Bachelor’s Degree in Discipline/Related Discipline:** All applicants must present credentials that are the equivalent of a baccalaureate degree at Temple University.

For applicants who completed their degree outside of the United States, a World Education Services (WES) course-by-course transcript evaluation is required. This can be requested and submitted through SOPHAS (https://sophas.liaisoncas.com/applicant-ux).

**Statement of Goals:** A one-page statement articulates why you want to enroll in the PhD NMS program at Temple. State your career goals and research interests.

**Standardized Test Scores:**
- **GRE:** Required. Scores from a test taken within the last 5 years must be at or above the 50th percentile in the verbal and quantitative components, with a score of 4 or higher on the writing component. Official scores should be sent directly to SOPHAS (https://sophas.liaisoncas.com/applicant-ux) using code 0151.
- **TOEFL:** For applicants whose native language is not English, the TOEFL is required with a minimum score of 79 iBT. TOEFL scores should be sent officially to SOPHAS (https://sophas.liaisoncas.com/applicant-ux) using the SOPHAS-specific TOEFL code of 5688.

**Interview:** Students may be invited to interview with the program faculty. An interview may take place in person or through technology if costs prohibit travel to Temple.

**Resume:** Current resume or CV required.

## Program Requirements

**General Program Requirements:**

**Number of Credits Required to Earn the Degree:** 45

### Required Courses:

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tr>
<td>HRPR 5001</td>
<td>Current and Emerging Issues in Public Health and Health Professions</td>
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<tr>
<td>HRPR 5999</td>
<td>Research Experience in Health Professions (work on publishable paper for two terms)</td>
<td>0</td>
</tr>
<tr>
<td>NMS 9621</td>
<td>Neuromotor Science 1: Neural Factors</td>
<td>3</td>
</tr>
<tr>
<td>NMS 9622</td>
<td>Neuromotor Science: Instrumentation</td>
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<td>NMS 9623</td>
<td>Neuromotor Science: Programming</td>
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<tr>
<td>NMS 9624</td>
<td>Neuromotor Science 2: Mechanics and Models</td>
<td>3</td>
</tr>
<tr>
<td>NMS 9627</td>
<td>Neuromotor Science 3: Cognition and Learning</td>
<td>3</td>
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<tr>
<td>NMS 9653</td>
<td>Grantsmanship</td>
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<td>Statistics and Research Design courses</td>
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<td>Teaching Practicum</td>
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<td><strong>Non-Didactic Courses</strong></td>
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<tr>
<td>NMS 9994</td>
<td>Doctoral Preliminary Exams</td>
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</table>

### Preliminary Examination (NMS 9994):

All students must pass a preliminary examination prior to defending their dissertation research proposal. This qualifying examination consists of assessment of both didactic knowledge and research skills in neuromotor science. The didactic knowledge portion of the exam consists of a written examination followed by an oral examination of core concepts taught within the core neuromotor science courses. The research skill portion of the exam consists of skills acquired in a research lab presented in a lab practicum format.

### Dissertation Proposal and Defense (NMS 9998):

In conjunction with the academic advisor and with the approval of the Program Director, each student is expected to identify a Doctoral Advisory Committee. The committee shall be comprised of at least three members. Two of the members shall be from within the Departments of Physical Therapy or Kinesiology, and at least one shall be from outside the department. At least two of the three members must hold full Graduate Faculty status.

Students are required to prepare and submit a dissertation proposal and successfully defend it orally in front of their committee. As appropriate,
they must obtain IRB approval for their proposed research and submit a copy of the dissertation proposal to the Graduate School. Students are expected to have developed and defended their dissertation proposal within one year of successfully completing their preliminary examination.

Any student who does not adhere to this timeline must petition the Program Advisory Committee for an exception to this requirement. Extensions are not guaranteed. If a student does not receive an extension, her/his case will be considered at the time of the Annual Review of Progress toward the degree. Failure to pass NMS 9998 within one year can result in dismissal from the program.

Dissertation Research (NMS 9999): Students are required to complete and orally defend their dissertation research. Students must be enrolled continuously in NMS 9999 until their dissertation is successfully defended. The Graduate School requires at least 6 credit hours of dissertation coursework. Students must be enrolled in the term that they graduate.

The dissertation must be successfully defended in a public oral defense as determined by the student’s Dissertation Examining Committee. This committee evaluates the student’s ability to express verbally her/his research question, methodological approach, primary findings, and implications. The Dissertation Examining Committee votes to pass or fail the dissertation and the defense at the conclusion of the public presentation.

Students who are preparing to defend their dissertation must confirm a time and date for the oral defense with their Dissertation Examining Committee at least 15 days before the desired defense date. After the student and department have arranged the time, date, and room for the defense, the student must provide the official announcement to the Graduate School at least two weeks before the defense.

Contacts
Program Web Address: https://cph.temple.edu/neuromotor-science/programs-offered/neuromotor-science-phd

Department Information:
Dept. of Physical Therapy
Ritter Hall Annex, 6th Floor
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091
depptl@temple.edu
215-204-9066

Mailing Address for Application Materials:
Neuromotor Science Program
Dept. of Physical Therapy
1301 Cecil B. Moore Avenue, Ritter Hall Annex, 6th Floor (004-00)
Philadelphia, PA 19122-6091

Department Contacts:
Program Directors:
W. Geoffrey Wright, Ph.D.
wrightw@temple.edu
215-204-9066

Carole A. Tucker, PT, Ph.D.
tuckerc@temple.edu

215-204-9009

Nursing, D.N.P.
COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

About the Program
Graduate nursing education strongly reflects the values and goals of Nursing and the broad mission of Temple University. The D.N.P. program prepares graduates to provide primary care for individuals, families, and communities grounded in evidence-based practice and research. Embedded in the program is the social context of health systems, health policy, and health economics and their impact on the individual, family, and community. Students are prepared to provide direct primary care to individuals across diverse settings and indirect administration of systems of care, as well as to participate in the development and implementation of health policy. The D.N.P. program expands students’ scope of practice while maintaining a clinical primary care focus. Through integration of the educator, clinician, and research roles, faculty work with D.N.P. students to cultivate the value of evidence-based clinical practice and its potential impact on individuals, groups, and communities.

Time Limit for Degree Completion: 5 years
Campus Location: Health Sciences Center
Full-Time/Part-Time Status: Classes are offered between 8:00 a.m. and 7:30 p.m. on Wednesdays throughout the year. Summer courses are included as a part of the curriculum. Full-time enrollment in the program is preferred.

Accreditation: The baccalaureate degree in nursing and Doctor of Nursing Practice degree at Temple University are accredited by the Commission on Collegiate Nursing Education, One Dupont Circle, NW, Suite 530, Washington, DC 20036, 202-887-6791.

Areas of Specialization: Two concentrations are offered in the post-baccalaureate option: Adult-Gerontology Primary Care and Family-Individual Across the Lifespan. A post-master’s option is available for those who hold an earned master’s degree in nursing.

Job Prospects: Graduates of the program are employed in a variety of diverse settings, including both outpatient settings affiliated with hospitals and outpatient primary care clinics.

Licensure: Professional Nurse Licensure (R.N.) is required in Pennsylvania and either New Jersey or Delaware for post-B.S.N. applicants. R.N. licensure is also required of post-master’s applicants. For more information about licensure, see https://www.ncsbn.org/contact-bon.htm.

Non-Matriculated Student Policy: Non-matriculated students can take a total of 6 graduate credits prior to matriculation, although they must submit a complete application before registering for their second course. Only the following courses may be taken while a non-matriculated student:

<table>
<thead>
<tr>
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<th>Credit Hours</th>
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<tr>
<td>EPBI 5002</td>
<td>Biostatistics</td>
<td>3</td>
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</tbody>
</table>
Financing Opportunities: Funds are available to matriculated students. Students are required to complete a scholarship application annually to be eligible for funding.

**Admission Requirements and Deadlines**

**Application Deadline:**

*Fall:* March 1

All applicants to the D.N.P. in Nursing program must apply via the Centralized Application Service for Nursing Programs (NursingCAS). The system can be accessed at https://www.nursingcas.org/.

**Letters of Reference:**

*From Whom:* Letters of recommendation should assess the applicant’s ability to work independently, academic and scholarly performance, analytical thinking and aptitude for advanced study, commitment to urban health, communication skills, and professional contributions. Authors should indicate how long they have known the applicant and in what capacity.

**Coursework Required for Admission Consideration:** Two admission options are offered for the D.N.P. program:

- Direct entry from the B.S.N. – Post-baccalaureate applicants choose between two concentrations: Adult-Gerontology Primary Care and Family-Individual Across the Lifespan. Candidates who apply for post-B.S.N. entry must have earned a baccalaureate degree in Nursing with a GPA of 3.0.
- Post-Master’s – Applicants to the post-master’s D.N.P. program must have an earned master’s in Nursing and are required to complete a total of 1,000 clinical practicum hours. Students admitted beginning Fall 2018 may apply up to 500 hours earned during their master’s program toward the 1,000-hours requirement. Hours required for national certification may also be applied. Evaluation and verification of hours is required prior to formal admission to the program.

**Bachelor’s Degree in Discipline/Related Discipline:** All applicants must present credentials that are equivalent to a baccalaureate degree at Temple University. Official transcripts for all undergraduate and graduate institutions attended must be submitted.

For applicants who completed their degree outside of the United States, a World Education Services (WES) (https://www.wes.org) course-by-course transcript evaluation is required.

**Statement of Goals:** A 500- to 1,000-word statement of purpose articulates your background, academic and professional goals, and how your interests relate to the D.N.P. program at Temple.

**Standardized Test Scores:**

GRE/MAT: Required for those who enter post-B.S.N. but waived for those who enter post-master’s. Scores are expected to be at or above the 50th percentile. Official GRE scores should be sent directly to NursingCAS (https://www.nursingcas.org) using code 4033. To qualify for a waiver of the GRE or MAT requirement, the applicant must have:

- an undergraduate GPA of 3.5 or greater,
- a cumulative GPA of 3.5 in three graduate core courses if the undergraduate GPA is less than or equal to 3.49, or
- a graduate degree in another discipline.

TOEFL: 79 iBT or 550 PBT minimum. Scores should be sent officially to NursingCAS (https://www.nursingcas.org) using the NursingCAS-specific TOEFL code of B506.

**Clearances:** The Nursing D.N.P. program requires students to complete clinical/field education experiences at facilities both on and off Temple University’s campuses. These placements require criminal background checks, including Pennsylvania state criminal background check for employment, Pennsylvania state child abuse clearance, FBI fingerprinting clearance, and drug screen. The results of these requirements may limit and potentially eliminate placement options for the student, thus resulting in her/his inability to meet admission/graduation requirements. Additionally, conviction of a misdemeanor, felony, or felonious or illegal act may prevent the individual from becoming credentialed and/or obtaining Advanced Practice Nursing approval. Students also need a physical examination, proof of required immunizations, annual influenza vaccines, vaccination, Quantiferon testing, CPR certification, and personal health insurance. Students who do not comply with the required health and immunization requirements will not be permitted to attend clinical and may be dismissed from the Nursing program.

**Interview:** An interview conducted by the Nursing Graduate Faculty may be scheduled only when all required materials have been submitted by the applicant.

**Resume:** Current professional resume required.

**Transfer Credit:** Up to 6 graduate credits from an accredited institution may be transferred into the D.N.P. program. A transferred course must be equivalent to coursework offered at Temple, and the grade must be a "B" or better to transfer. The decision is made by the Director of Graduate Programs in conjunction with the appropriate faculty member.

**Other:** Copies of the applicant’s current nursing licenses must be provided with the application.

**Program Requirements**

**General Program Requirements:**

*Number of Credits Required to Earn the Degree:* 68 for the post-baccalaureate concentrations in Adult-Gerontology Primary Care or Family-Individual Across the Lifespan; 37 for students entering post-master’s

**Required Courses:**

### Full-Time Post-Baccalaureate Option

**Year 1**

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<td>Fall</td>
<td>NURS 5401</td>
<td>Advanced Physiology and Pathophysiology</td>
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<tr>
<td>Fall</td>
<td>NURS 5402</td>
<td>Pharmacotherapeutics for Advanced Practice Nursing</td>
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<td>Spring</td>
<td>NURS 5101</td>
<td>Evidence Based Practice for Advanced Practice Nurses</td>
<td>3</td>
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NURS 5501 Theories for Advanced Practice Nursing of Families and Individuals 3
NURS 5552 Clinical Assessment and Diagnosis in Advanced Practice Nursing 4
NURS 8101 DNP Project Development I 1

Term Credit Hours 11

**Summer**

NURS 8102 DNP Project Development II 1
NURS 8302 Managing Quality Initiatives Through Nursing Quality Initiatives 3

Term Credit Hours 4

**Year 2**

**Fall**

HRPR 8985 Teaching in Higher Education: Health Professions 1 3
NURS 8204 Policy: Health Care Advocacy in Advanced Nursing Practice 2
NURS 9377 Primary Care of Adults I Theory 3
NURS 9387 Primary Care of Adults I Practicum (208 hours) 2

Term Credit Hours 10

**Spring**

HRPR 8960 1 3
NURS 8205 Organizational and Systems Leadership 2
NURS 9477 Primary Care of Adults II Theory 3
NURS 9487 Primary Care of Adults II Practicum (208 hours) 2

Term Credit Hours 10

**Summer**

NURS 8201 Health Indices of Urban Populations in Primary Health Care 3
NURS 9289 1

Term Credit Hours 4

**Year 3**

**Fall**

NURS 8103 DNP Project Implementation (168 hours) 2 3
NURS 9189 1
NURS 9577 Primary Care of the Elderly I Theory 3
NURS 9587 Primary Care of the Elderly I Practicum (208 hours) 2

Term Credit Hours 9

**Spring**

NURS 8207 Advancing Health Through Information Technology 2
NURS 8303 Health Economics and Information Systems in Primary Health Care 2
NURS 9677 or 9777 Primary Care of the Elderly II Theory 3 3
NURS 9687 or 9787 Primary Care of the Elderly II Practicum (208 hours) 2,4

Term Credit Hours 9

Total Credit Hours: 68

1 Completion of HRPR 8960 Innovation, Technology and Teaching in Higher Education (3 s.h.) and HRPR 8985 Teaching in Higher Education: Health Professions (3 s.h.) earn the student the 6-credit graduate certificate in Teaching in Higher Education, which prepares graduates of the D.N.P. program to teach at the college level.

2 A total of 1,000 clinical hours is required to complete the degree. Hours are divided across five courses as shown.

3 NURS 9677 Primary Care of the Elderly II Theory is taken for the concentration in Adult-Gerontology Primary Care (AGPC), while NURS 9777 Primary Care of Children and Youth Theory is taken for the concentration in Family-Individual Across the Lifespan (FIAL).

4 NURS 9687 Primary Care of the Elderly II Practicum is taken for the concentration in Adult-Gerontology Primary Care (AGPC), while NURS 9787 Primary Care of Children and Youth Practicum is taken for the concentration in Family-Individual Across the Lifespan (FIAL).

### Part-Time Post-Baccalaureate Option

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NURS 8205 Organizational and Systems Leadership 2
NURS 9477 Primary Care of Adults II Theory 3
NURS 9487 Primary Care of Adults II Practicum (208 hours) 2

Term Credit Hours 7

Summer
NURS 8207 Advancing Health Through Information Technology 2
NURS 9289 1

Term Credit Hours 3

Year 4
Fall
NURS 8103 DNP Project Implementation (168 hours) 2 3
NURS 9577 Primary Care of the Elderly I Theory 3
NURS 9587 Primary Care of the Elderly I Practicum (208 hours) 2

Term Credit Hours 8

Spring
NURS 8303 Health Economics and Information Systems in Primary Health Care 2
NURS 9677 or 9777 Primary Care of the Elderly II Theory 3
NURS 9687 or 9787 Primary Care of the Elderly II Practicum (208 hours) 2

Term Credit Hours 7

Total Credit Hours: 68

1 Completion of HRPR 8960 Innovation, Technology and Teaching in Higher Education (3 s.h.) and HRPR 8985 Teaching in Higher Education: Health Professions (3 s.h.) earn the student the 6-credit graduate certificate in Teaching in Higher Education, which prepares graduates of the D.N.P. program to teach at the college level.
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Full-Time Post-Master’s Option

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Total Credit Hours: 37

1 Completion of HRPR 8960 Innovation, Technology and Teaching in Higher Education (3 s.h.) and HRPR 8985 Teaching in Higher Education: Health Professions (3 s.h.) earn the student the 6-credit graduate certificate in Teaching in Higher Education, which prepares graduates of the D.N.P. program to teach at the college level.
2 A total of 1,000 clinical hours is required to complete the degree. Of that total, 500 hours are divided across three courses as shown. Evaluation and verification of 500 hours earned during the student’s completed master’s program is required prior to formal admission to the program.

Part-Time Post-Master’s Option

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Year 2

Fall
HRPR 8985 Teaching in Higher Education: Health Professions\(^1\) 3
NURS 9389 (166 hours)\(^2\) 2

Term Credit Hours 5

Spring
HRPR 8960 1
NURS 9489 (166 hours)\(^2\) 2

Term Credit Hours 5

Summer
NURS 8201 Health Indices of Urban Populations in Primary Health Care 3
NURS 9289 1

Term Credit Hours 4

Year 3

Fall
NURS 8103 DNP Project Implementation (168 hours)\(^2\) 3
NURS 9189 1

Term Credit Hours 4

Spring
NURS 8207 Advancing Health Through Information Technology 2
NURS 8303 Health Economics and Information Systems in Primary Health Care 2

Term Credit Hours 4

Total Credit Hours: 37

---

1 Completion of HRPR 8960 Innovation, Technology and Teaching in Higher Education (3 s.h.) and HRPR 8985 Teaching in Higher Education: Health Professions (3 s.h.) earn the student the 6-credit graduate certificate in Teaching in Higher Education, which prepares graduates of the D.N.P. program to teach at the college level.

2 A total of 1,000 clinical hours is required to complete the degree. Of that total, 500 hours are divided across three courses as shown. Evaluation and verification of 500 hours earned during the student's completed master's program is required prior to formal admission to the program.

Culminating Event: During NURS 8101 DNP Project Development I, NURS 8102 DNP Project Development II, and NURS 8103 DNP Project Implementation, the student develops an evidence-based clinical practice project in consultation with a committee composed of faculty and site mentor.

Contacts

Department Web Address:
http://cph.temple.edu/nursing/

Department Information:
Dept. of Nursing, Graduate Education
College of Public Health
3307 N. Broad Street, 505 Jones Hall
Philadelphia, PA 19140
TUnurse@temple.edu
215-707-4686

Mailing Address for Application Materials:
Dept. of Nursing, College of Public Health
3307 N. Broad Street
Philadelphia, PA 19140

Department Contacts:

Admissions:
CPH Office of Admissions
cph@temple.edu
215-204-5200

General:
Audrey Scriven
Academic Coordinator
TUnurse@temple.edu
215-707-4618

Chairperson:
Martha Y. Kubik, PhD, MSN, RN
martha.kubik@temple.edu
215-707-4687

Occupational Therapy, M.O.T.

COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

About the Program

The Master of Occupational Therapy (M.O.T.) is an 80-credit, full-time program that begins in June and takes seven academic terms to complete, including six months of supervised full-time fieldwork. Students take foundational, theoretical, intervention, and research courses while engaging in community and field experiences.

Time Limit for Degree Completion: 2.5 years

Campus Location: Contact the Academic Coordinator at otadmissions@temple.edu for information.

Full-Time/Part-Time Status: Full-time study is required.

Interdisciplinary Study: Community and fieldwork experiences offer students the opportunity to interact, communicate, and collaborate with clients, families, and other disciplines.

Affiliation(s): Local, regional, and national community and fieldwork affiliations are available.

Ranking: In the 2017 edition of U.S. News and World Report, Temple University's Occupational Therapy program is ranked 32.

Accreditation: The M.O.T. program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE®):

Accreditation Council for Occupational Therapy Education (ACOTE®)
American Occupational Therapy Association, Inc.
4720 Montgomery Lane, Suite 200
Bethesda, MD 20814-3449
Voice: 301-652-2682
Fax: 301-652-1417
E-mail: accred@aota.org
Areas of Specialization: The Temple University Occupational Therapy program prepares graduates to be entry-level practitioners in any area of service delivery.

Job Prospects: As of 2016, the U.S. Bureau of Labor Statistics projects a 24% growth in occupational therapy until 2022, much higher than average for all jobs.

Licensure: Graduates of the M.O.T. program are eligible to take the National Board for Certification in Occupational Therapy (NBCOT) examination leading to the designation Occupational Therapist, Registered (OTR). Additionally, practitioners must abide by specific licensure requirements as determined by individual states. For more information about state licensure, see http://www.aota.org/Advocacy-Policy/State-Policy/Licensure.aspx.

Non-Matriculated Student Policy: M.O.T. coursework is available only to full-time matriculated students.

Financing Opportunities: Financial aid is available to students. For information, please contact Student Financial Services at 215-707-2667.

Admission Requirements and Deadlines

Application Deadline:

Summer II: February 1

All applicants to the M.O.T. program must apply via the Occupational Therapist Centralized Application Service (OTCAS). The system can be accessed at https://otcas.liaisoncas.com/. Applications are processed throughout the year as they are received. Admission to the M.O.T. program is a rolling process such that, beginning in the Fall, applications are reviewed and offers of admission are extended, continuing until the cohort is filled. Thus, it is in the applicant's best interest to apply early to this highly competitive degree program. Full admissions requirements and answers to frequently asked questions can be found at http://cph.temple.edu/rs/occupational-therapy-program-master-occupational-therapy-mot/applying-mot-program.

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from evaluators, typically college/university faculty or an immediate work supervisor, who can provide insight into the applicant's aptitude for graduate study. These letters are to be submitted electronically at https://otcas.liaisoncas.com/.

Coursework Required for Admission Consideration: Required coursework includes:

- Introduction to Psychology
- Introduction to Sociology or Cultural Anthropology (1000-level course, not a 2000- or 3000-level course)
- Anatomy with lab and Physiology (1000-level course, not 2000- or 3000-level course), which can be taken separately or as a combined sequence (e.g., Anatomy and Physiology I with Anatomy lab, or Anatomy and Physiology II). The lab must include human muscular and skeletal anatomy.
- Developmental Psychology or Lifespan Development, which must include a lifespan perspective of development. Two developmental psychology courses in two different life phases are accepted (either child/youth and adult/older adult).
- Abnormal Psychology or Psychopathology
- Statistics, Biostatistics, or Research Methods

Without exception, grades earned in prerequisite courses must be a “B-” or better for consideration in an application. Prerequisites are not required to have been taken while an undergraduate. The courses may be completed at a local community college or any accredited institution of higher education. AP or CLEP courses are not accepted for prerequisites, except for Introduction to Psychology with a score of 4 or higher. Science courses must be four credits. Prerequisites may be in progress at the time of the initial application, but must be completed and verified on one's OTCAS application by February 1 of the year for which application is made.

Bachelor's Degree in Discipline/Related Discipline: Without exception, the February 1 deadline for OTCAS transcript and course verification must be met. If you have questions regarding transcript and course verification, contact OTCAS directly. A baccalaureate degree in any discipline is acceptable for applying to Temple University's Occupational Therapy program as long as the required prerequisites are successfully completed with a grade of "B-" or better. No particular undergraduate program of study is required for occupational therapy.

Statement of Goals: The education and practice of occupational therapists demand a great deal of mental flexibility, creativity, teamwork, and service to others. The personal statement, which is submitted at https://otcas.liaisoncas.com, should reflect your capacity to engage in the rigorous demands of professional graduate occupational therapy education and practice.

Standardized Test Scores:

- MAT or GRE: Scores are expected in the top 50th percentile.
- TOEFL: 100 iBT or 600 PBT minimum.

Clearances: The Occupational Therapy M.O.T. program requires students to complete clinical/field education experiences at facilities both on and off Temple University's campuses. These placements require a physical examination, immunization records, criminal background checks, Act 33/34 clearances, DHS fingerprinting, Healthcare Provider CPR certification, proof of personal health insurance, an annual influenza vaccine, and perhaps a drug screen. The results of these requirements may limit and potentially eliminate placement options for the student, thus resulting in her/his inability to meet graduation requirements. Additionally, conviction of a misdemeanor, felony, or felonious or illegal act may prevent the individual from becoming credentialed and/or licensed to practice occupational therapy.

Program Requirements

General Program Requirements:

Number of Credits Required to Earn the Degree: 80

Required Courses:

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Total Credit Hours: 80

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1 This common College Core course is required of all incoming graduate students in the College of Public Health. It is available completely online and aligned with the M.O.T. curriculum. Your course instructor will provide additional information on which modules are required for each course.

2 The Fieldwork II experience must be completed within 24 months of completion of academic coursework.

Culminating Events:

**Intensive Fieldwork Practicum:**
Students may be required to travel up to 90 minutes from their place of residence to a Level I or II clinical site.

Level I: Students participate in a variety of Level I fieldwork experiences that are largely locally. However, opportunities do exist for international Level I field experiences.

Level II: Two 12-week supervised full-time fieldwork experiences are required for degree completion. Level II fieldwork must be completed within 24 months of successful completion of all academic courses. Students are assigned to Level II fieldwork either locally or in another state. No international Level II fieldwork experiences are available.

Contacts

**Program Web Address:**
https://cph.temple.edu/rs/occupational-therapy-program/occupational-therapy-mot

**Department Information:**
Programs in Occupational Therapy
201 Mitten Hall
1913 N. Broad Street
Philadelphia, PA 19122-6004
tuf33407@temple.edu
215-204-0820

**Submission Address for Application Materials:**
https://otcas.liaisoncas.com/

**Department Contacts:**

**Admissions:**
CPH Office of Admissions
cph@temple.edu
215-204-5200

Occupational Therapy Admissions
otadmissions@temple.edu
215-204-5229
Cell: 267-908-1734

Occupational Therapy, O.T.D.

**COLLEGE OF PUBLIC HEALTH** (http://cph.temple.edu)

**About the Program**

The Clinical Doctorate in Occupational Therapy (O.T.D.) is a postprofessional non-research-based doctorate in occupational therapy. It establishes advanced clinical expertise and leadership in the practice of occupational therapy. The objectives of the program are to create:
• Occupational therapists who use, promote, and advance client-centered and evidenced-based practices.
• Broad thinkers who see occupational therapy’s role as promoting a person’s participation in society in consideration of societal needs, policy, and trends.
• Inspired scholarly thinkers who can bring clinically relevant and fresh perspectives to a situation.
• Innovators and leaders who can enact individual action and social reform to foster productive and meaningful living.

The O.T.D. program is offered in a flexible-distance education format with two to three on-campus sessions per year. Students are required to attend the on-campus sessions to launch and wrap up the coursework. Orientation, advisement, and introductions to faculty are also provided during on-campus sessions.

Time Limit for Degree Completion: 4 years, but the average student can complete the program in 2 to 3 years

Campus Location: Online, with on-campus experiences taking place at Temple University’s Main Campus

Full-Time/Part-Time Status: The degree program must be completed on a full-time basis.

Affiliation(s): Students complete field studies and capstones in various settings depending on the nature of the study, as determined by the faculty advisor and student.

Ranking: In the 2017 edition of U.S. News and World Report, Temple University’s Occupational Therapy program is ranked 32.

Accreditation: Temple University is accredited by the Middle States Commission on Higher Education, which is an institutional accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation.

Job Prospects: As of 2016, the U.S. Bureau of Labor Statistics projects a 24% growth in occupational therapy until 2022, much higher than average for all jobs.

Licensure: Applicants of the O.T.D. program must be certified and licensed occupational therapists.

Non-Matriculated Student Policy: O.T.D. coursework is available only to matriculated students.

Financing Opportunities: Financial aid is available to students. For information on financial aid, please contact the Office of Student Financial Services at 215-707-2667.

Admission Requirements and Deadlines

Application Deadline:

Fall: July 1

To apply for the O.T.D. program, the applicant must be a licensed Occupational Therapist.

All applicants apply via the Occupational Therapist Centralized Application Service (OTCAS). The system can be accessed at https://otcas.liaisoncas.com/. All application materials listed below are required to be sent directly to OTCAS:

1. Official academic transcripts are required from all undergraduate and graduate institutions attended.
2. Two professional/academic letters of recommendation are required.
3. A statement of goals is required and must be a minimum of one page in length. This personal statement reflects your capacity to engage in rigorous graduate education and practice and should inform on your capacity for mental flexibility, creativity, teamwork, contribution to a learning environment, and service to others. Your statement must include a reflection of your alignment with Temple’s Occupational Therapy mission, philosophy, and values. In addition, you must identify an area of interest you might pursue in clinical doctorate studies and describe a current OT faculty member’s scholarly areas and capacity to advise in your area of interest. Submit the personal statement as part of the online application; a formatted copy may also be sent via e-mail to otadmissions@temple.edu.
4. A professional writing sample is required, which may include either a previously published article or an academic paper from previous coursework. If you do not have a professional writing sample, you may write a brief professional paper, one to two pages in length, based on a clinical question provided to you by the O.T.D. program.
5. A current resume is required.
6. A copy of your current state OT license must be submitted.
7. Standardized test scores:

   • GRE scores are required only if the applicant’s cumulative GPA for the master’s degree is below 3.0. Scores in the 50th percentile or higher are preferred on the verbal and quantitative sections. Submit GRE scores to Temple University OTCAS using code 1239.

   • For applicants whose native language is not English, TOEFL scores must be reported. The acceptable minimum is 79 iBT or 550 PBT.

Questions about the application process should be directed to Occupational Therapy Admissions at otadmissions@temple.edu or 215-204-7213. International students are advised to first visit http://www.temple.edu/grad/admissions/international.htm for general information about applying to Temple University.

Post-Baccalaureate Certificate in Occupational Therapy: Students with a Bachelor in Science in Occupational Therapy (B.S.O.T.) are eligible to apply to the O.T.D. program following successful completion of an 8-credit Post-Baccalaureate Certificate in Occupational Therapy, as well as a Statistics or Biostatistics course prior to admission. Four courses are required to earn the Post-Baccalaureate Certificate in Occupational Therapy and are offered in a hybrid format of online and in-person classes:

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTHR 5002</td>
<td>Theoretical Perspectives of Occupation (Year 1 Summer)</td>
<td>2</td>
</tr>
<tr>
<td>OTHR 5019</td>
<td>Theoretical Perspectives of Occupational Therapy (Year 1 Fall)</td>
<td>2</td>
</tr>
<tr>
<td>OTHR 5301</td>
<td>Professional Development and Learning in OT Education (Year 1 Spring)</td>
<td>1</td>
</tr>
<tr>
<td>OTHR 5219</td>
<td>Occupational Therapy Practice: Community and Social Participation (Year 2 Summer)</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours 8
Additional information on the Post-Baccalaureate Certificate in Occupational Therapy is available by contacting Occupational Therapy Admissions at otadmissions@temple.edu.

**Bachelor’s Degree in Discipline/Related Discipline:** All applicants must have earned a baccalaureate degree.

**Clearances:** The Occupational Therapy program requires students to complete clinical/field education experiences at facilities both on and off Temple University’s campus. These placements require criminal background checks, Act 33/34 clearances, and perhaps a drug screen. The results of these requirements may limit and potentially eliminate placement options for the student, which can, in turn, result in an inability to meet graduation requirements. Additionally, conviction of a misdemeanor, felony, or felonious or illegal act may prevent the student from becoming credentialed and/or licensed to practice occupational therapy.

## Program Requirements

### General Program Requirements:
**Number of Credits Required to Earn the Degree:** 31

### Required Courses:

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
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<tr>
<td></td>
<td>OTHR 8513</td>
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<tr>
<td></td>
<td>OTHR 8514</td>
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<th>Credit Hours</th>
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<td>OTHR 8902</td>
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<tr>
<td>Elective 1</td>
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<table>
<thead>
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<td>OTHR 8903</td>
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<tr>
<td>OTHR 9089</td>
<td>3</td>
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</tr>
<tr>
<td>Elective 2 (if not completed) or 3</td>
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<td></td>
</tr>
<tr>
<td><strong>Term Credit Hours</strong></td>
<td>7</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Year 2</th>
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<tr>
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<td></td>
</tr>
<tr>
<td>OTHR 8905</td>
<td>1</td>
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<tr>
<td><strong>Term Credit Hours</strong></td>
<td>4</td>
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</tr>
</tbody>
</table>

| Total Credit Hours: | 31 |

1. This common College Core course is required of all incoming graduate students in the College of Public Health. It is available completely online and designed such that students can complete the modules at their own pace over the course of their degree program.
2. Consult with your faculty advisor when choosing electives.
3. If not completed by the Fall term of Year 2, the third elective is taken in the Spring term of Year 2.

It is recommended that students complete the O.T.D. program by taking two courses and an elective per term. In this format, students can complete the degree program over five terms and within two years. Students develop a professional development plan at the beginning of the program to guide them through the curriculum.

### Culminating Events:

**Capstone Project:**
Students are assigned a faculty advisor to guide the capstone experience over a series of academic terms: OTHR 8902 Capstone Project Inquiry, OTHR 8903 Capstone Project Proposal, OTHR 8904 Capstone Project Implementation, and OTHR 8905 Capstone Project. Outcomes from the Capstone Project are expected to be disseminated through presentations or publications and/or to be incorporated into clinical practice. An on-campus Capstone Presentation Day is scheduled in the final Spring term.

### Contacts

**Program Web Address:**
https://cph.temple.edu/rs/academics-rehabilitation-sciences/occupational-therapy

**Department Information:**
Programs in Occupational Therapy
201 Mitten Hall
1913 N. Broad Street
Philadelphia, PA 19122-6004
tuf33407@temple.edu
215-204-0820

**Submission Address for Application Materials:**
https://otcas.liaisoncas.com/

**Department Contacts:**

**Admissions:**
CPH Office of Admissions
cph@temple.edu
215-204-5200

Occupational Therapy Admissions
otadmissions@temple.edu
215-204-5229
Cell: 267-908-1734

**Physical Therapy, D.P.T.**

COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

### About the Program
Physical Therapy is a health care profession with the purpose to promote human health and function by applying evidence to identify, assess,
remediate, or prevent human movement dysfunction. Physical therapists are concerned with the physical well-being of their clients and patients, and recognize the need to understand and respond to the sociocultural beliefs of the person and family receiving physical therapy services. They accept full responsibility for the patients or clients in their care and for the development of their profession.

The mission of the Department of Physical Therapy is twofold:

- Provide the opportunity for individuals from diverse cultural backgrounds to enter the physical therapy profession.
- Prepare physical therapy practitioners to meet the health care needs of society.

To meet this mission, three graduate programs are supported by the Department of Physical Therapy: the Doctor of Physical Therapy, the Master of Science in Neuromotor Science, and the Doctor of Philosophy in Neuromotor Science.

**Time Limit for Degree Completion:** 5 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** All required courses in the Department of Physical Therapy are offered weekdays on a full-time basis.

**Accreditation:** The D.P.T. program is accredited by the Commission on Accreditation of Physical Therapy Education (CAPTE) through 2025.

**Job Prospects:** Graduates with the D.P.T. degree are poised to meet the demand for physical therapy services for an increasing diverse population in acute care centers, independent outpatient orthopedic clinics, rehabilitation centers and clinics, skilled care facilities, and sports medicine clinics.

**Licensure:** For more information about state licensure, see [http://www.fsbpt.org/FreeResources/LicensingAuthoritiesContactInformation.aspx](http://www.fsbpt.org/FreeResources/LicensingAuthoritiesContactInformation.aspx).

**Non-Matriculated Student Policy:** Only matriculated students may enroll in D.P.T. coursework.

**Financing Opportunities:** Contact the Department of Physical Therapy for information.

**Admission Requirements and Deadlines**

**Application Deadline:**

- **Summer I:**
  - July 5 - Application Cycle Opens
  - November 1 - Application Cycle Ends

The application process requires submission through the Physical Therapy Centralized Application System (PTCAS). The system can be accessed at [https://ptcas.liaisoncas.com/](https://ptcas.liaisoncas.com/). It is recommended that the PTCAS (https://ptcas.liaisoncas.com/applicant-ux) application be completed by early October so PTCAS has ample time to fully verify the application, which must be done prior to review by Temple University.

For more information on the application process for the D.P.T. program at Temple University, visit [https://cph.temple.edu/pt/degrees-offered/doctor-physical-therapy-dpt](https://cph.temple.edu/pt/degrees-offered/doctor-physical-therapy-dpt).

**Letters of Reference:**

Number Required: 2

From Whom: Letters of recommendation should be obtained from individuals who can judge the applicant's ability to succeed in a professional graduate program in Physical Therapy. Individuals typically positioned to provide such assessment include university faculty members, physical therapy clinicians, and employers. One reference must be from a physical therapist who can provide perspective on your ability as a student and future physical therapist.

The second letter of reference must be from an academic professor who can provide an assessment of your ability to succeed with the academic rigor of a doctoral-level program. Notify the references to expect an online reference form from PTCAS once you begin the application process.

**Coursework Required for Admission Consideration:** Applicants must complete 10 prerequisite courses totaling 37 credits with a minimum cumulative GPA of 3.0 and no grades below a “C” (2.0). An applicant is permitted to apply with 6 of the 10 required prerequisite courses completed. If outstanding coursework exists, the admitted student must provide proof that s/he earned sufficient grades in all courses upon completion. Pass/fail for prerequisite courses is not acceptable. Laboratories for science-based courses should not be online, but rather in-person traditional laboratories. Online lecture components are acceptable. Complete information on prerequisites is available at [https://cph.temple.edu/pt/degree-programs/doctor-physical-therapy-dpt/apply](https://cph.temple.edu/pt/degree-programs/doctor-physical-therapy-dpt/apply).

**Master’s Degree in Discipline/Related Discipline:** A master's degree is not required.

**Bachelor’s Degree in Discipline/Related Discipline:** All applicants must possess a completed baccalaureate degree in any discipline with a minimum GPA of 3.0 on a 4.0 scale or be designated as a matriculant in an internal articulation agreement (i.e., Temple 3+3 applicant) between approved undergraduate departments at Temple University and the Department of Physical Therapy.

**Essays:** Three opportunities are presented within the PTCAS (https://ptcas.liaisoncas.com/applicant-ux) application for the applicant to respond to program and profession-specific questions.

**Standardized Test Scores:**

GRE: Required. Scores from the test taken within the last 5 years should be in the 50th percentile on at least two of the three test sections (verbal, quantitative, and analytical). It is recommended that applicants have a GRE score for all three sections that are at or near the averages for admitted students. Review the average GRE scores for matriculants as well as electronic transmittal instructions in the prerequisites document found at [https://cph.temple.edu/pt/degree-programs/doctor-physical-therapy-dpt/apply](https://cph.temple.edu/pt/degree-programs/doctor-physical-therapy-dpt/apply).


**Clearances:** The Physical Therapy D.P.T. program requires students to complete clinical/field education experiences at facilities both on and off Temple University’s campuses. These placements require criminal background checks, Act 33/34 clearances, and perhaps a drug screen. Placements also require the student to maintain personal health insurance. The results of these requirements may limit and potentially eliminate placement options for the student, thus resulting in her/his
inability to meet graduation requirements. Additionally, conviction of a misdemeanor, felony, or felonious or illegal act may prevent the individual from becoming credentialed and/or licensed to practice physical therapy.

Physical Therapy Observation Hours/Experience: In the interview process, applicants are expected to demonstrate physical therapy professional experience/knowledge either through unpaid volunteerism or a paid clinical position. It is recommended that an applicant seek out service and leadership opportunities and have completed observation/volunteer hours in a variety of physical therapy settings. No minimum number of hours is required, but it is recommended that applicants consider a sufficient number of hours to ensure they have an understanding of that area of the profession.

Interview: Qualified applicants are invited to interview with faculty and students of the D.P.T. program. Virtual interviews are available when travel costs are prohibitive.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Bachelor's: 117, excluding any prerequisite coursework

Required Courses:

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<th>Summer I</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>PHTH 8101</td>
<td>Introduction to Physical Therapy</td>
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<tr>
<td>PHTH 8102</td>
<td>Teaching, Learning, Group Dynamics</td>
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</tr>
<tr>
<td>PHTH 8103</td>
<td>Clinical Examination and Intervention Skills I</td>
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<tr>
<td>PHTH 8105</td>
<td>Human Anatomy I</td>
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<td>Term Credit Hours</td>
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<tr>
<th>Year 2</th>
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<tbody>
<tr>
<td>PHTH 8129</td>
<td>Psychosocial Aspects</td>
</tr>
<tr>
<td>PHTH 8131</td>
<td>Clinical Management of Musculoskeletal Conditions II</td>
</tr>
<tr>
<td>PHTH 8133</td>
<td>Clinical Management of Neuromuscular Conditions II</td>
</tr>
<tr>
<td>PHTH 8135</td>
<td>Clinical Management of Cardiopulmonary Conditions</td>
</tr>
<tr>
<td>PHTH 8136</td>
<td>Bioethics</td>
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<tr>
<td>PHTH 8137</td>
<td>Evidence Based Practice II</td>
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<tr>
<td>PHTH 8164</td>
<td>Integrated Clinical Experience 4</td>
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<td>PHTH 8139</td>
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<tr>
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<td>PHTH 9185</td>
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<table>
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<th>Year 3</th>
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<tbody>
<tr>
<td>PHTH 8147</td>
<td>Clinical Pain Sciences</td>
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<tr>
<td>PHTH 8148</td>
<td>Assistive Technologies</td>
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<tr>
<td>PHTH 8151</td>
<td>Evidence Based Practice III</td>
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<tr>
<td>PHTH 8160</td>
<td>Special Topics - Integrated Learning Experience</td>
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<td>Electives</td>
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<td>Select 2 from the following:</td>
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<tr>
<td>PHTH 8150</td>
<td>Elective - Special Topics</td>
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<td>PHTH 8152</td>
<td>Elective - Musculoskeletal</td>
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<tr>
<td>PHTH 8153</td>
<td>Elective - Vestibular</td>
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<td>PHTH 8154</td>
<td>Elective - Clinical Simulation</td>
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<td>PHTH 8155</td>
<td>Elective - Pediatrics</td>
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<td>PHTH 8156</td>
<td>Elective - Geriatrics</td>
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<td>HRPR 5001</td>
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</table>

Total Credit Hours: 117

1 Courses are taken for 12 weeks, spanning the Summer I and II terms.
Culminating Events:

Clinical Experiences:

Three full-time clinical experiences are required over the course of the degree program. Additionally, beginning in the Fall term of Year 1 and throughout Year 2, five part-time clinical experiences allow students to practice and apply current didactic skills with a variety of patient populations.

The full-time clinical experiences include:

- PHTH 9185 Clinical Experience 1, taken for 8 credits over 12 weeks in the Summer term between Years 2 and 3.
- PHTH 9285 Clinical Experience 2, taken for 8 credits over 12 weeks beginning in the Fall term of Year 3 and extending into the Spring term of that same academic year.
- PHTH 9385 Clinical Experience 3, taken for 8 credits over 12 weeks immediately following completion of PHTH 9285 Clinical Experience 2.

Practice Project and Comprehensive Patient Evaluation:

In the Fall term of Year 3, each student participates in a mentored evidence-based practice project and completes a comprehensive practical evaluation.

Contacts

Program Web Address:

https://cph.temple.edu/pt/degrees-offered/doctor-physical-therapy-dpt

Department Information:

Dept. of Physical Therapy
Ritter Hall Annex, 6th Floor (004-09)
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6005
deptpt@temple.edu
215-204-9066

Submission Address for Application Materials:

https://ptcas.liaisoncas.com/

Department Contacts:

Admissions:
CPH Office of Admissions

cph@temple.edu
215-204-5200

Program Director:
Scott Burns, PT, D.P.T., OCS, FAAOMPT
scott.burns@temple.edu
215-204-9016

Chairperson:
Carole Tucker, PT, Ph.D., PCS, RCEP
carole.tucker@temple.edu
215-204-9009

Recreational Therapy, M.S.

COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

About the Program

The 36-credit online M.S. in Recreational Therapy is designed for individuals who want to advance their knowledge and skills related to evidence-based practice within healthcare and human services. The curriculum teaches from a conceptual model of health promotion and rehabilitation and maintains a lifespan perspective in three core areas: health, disability, and leisure. The primary focus of academic and clinical preparation is on training recreational therapists to use play, recreation, and leisure to achieve and maintain goals related to health promotion, rehabilitation, and full participation in active, meaningful life. Specialization coursework can be used to meet advanced certification with the National Council for Therapeutic Recreation Certification (NCTRC).

The faculty utilize contemporary educational and learning technologies to impart the most current cutting-edge practitioner and leadership skills central to today’s healthcare and human service provision. All this is done while maintaining the timeless concepts of health, recreation, and leisure as that which drives the human spirit. The online M.S. in Recreational Therapy program is designed for those who strive to be leaders in recreational therapy and share a drive to improve the lives of others while harnessing the value inherent in, and benefits derived from, recreational activities.

Time Limit for Degree Completion: 4 years

Campus Location: Online, with a combination of synchronous components (web conference-based, live class discussions; chat rooms; and video meetings) and asynchronous components (discussion boards and other assignments completed by students on their own time)

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: Interdisciplinary study is encouraged and may be geared toward the student’s personal interests (e.g., counseling, exercise science, or special education). The diversity of departments and programs in the College of Public Health presents abundant opportunities for cross-disciplinary learning.

Affiliation(s): Numerous healthcare and human service agencies in Philadelphia and the surrounding Delaware Valley region cooperate with the Department of Rehabilitation Sciences and offer opportunities for student training and research. These include nationally recognized rehabilitation facilities such as Children’s Hospital of Philadelphia, Magee Rehabilitation Hospital, MossRehab, the Pennsylvania Center for...
Adapted Sports, the Princeton Medical Center, Shriner’s Hospital, the Temple University Hospital and Health System, United Cerebral Palsy of Philadelphia, and the Variety Club Camp and Developmental Center.

Additionally, graduate students are encouraged and supported to complete internships/clinical practicums in an extensive network of agencies cultivated by the program over the years. These include placements across the country, including California, Colorado, Florida, Georgia, Illinois, Montana, and Virginia.

Ranking: The faculty and the program are nationally recognized for excellence and have received numerous national and state awards for their contributions. Graduates of the program consistently perform well on the national credentialing examination for certified recreational therapists.

Accreditation: The academic program meets or exceeds all current curriculum standards issued by NCTRC and other professional organizations.

Areas of Specialization: Faculty members specialize and offer learning opportunities in adapted sport and inclusive recreation, behavioral health, disability studies, geriatrics, health promotion and rehabilitation, pediatrics, and physical rehabilitation.

Job Prospects: Graduates of the program are highly sought for advanced clinical/management positions in adult day programs, assisted living facilities, community settings providing specialized services to individuals with disabilities, hospitals, nursing homes, and pediatric facilities. Graduates who use the degree to enter this field are also highly sought after to begin practicing as recreational therapists.

Certification: Professional recognition is granted by NCTRC to individuals who apply and meet established standards for certification, including education, experience, and continuing professional development. The Certified Therapeutic Recreation Specialist (CTRS) credential is offered to qualified individuals when they meet the agency’s stringent standards.

Non-Matriculated Student Policy: Students are allowed to take up to 9 credits of graduate coursework before matriculation. Selection of courses must be made in conjunction with the department’s Graduate Program Director.

Financing Opportunities: Limited funding is available in the form of select assistantships and externships:

- Research Assistants are expected to devote up to 20 hours per week to research obligations. Availability depends on whether faculty have externally funded research grants. Assignments vary depending on the nature of the grant. A Research Assistantship carries a stipend and partial or full tuition remission.
- Graduate Externships are available through other divisions of the university. For example, Temple University’s Recreation Services hires externs to conduct student recreation events, and the Institute on Disabilities hires externs to assist with various projects. Externs do not receive tuition remission. Externship positions are handled directly by the units offering them.

Applying for a position as a Research Assistant or Graduate Extern is done in the form of a letter outlining relevant qualifications and experience. Students are notified as opportunities become available.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

All applicants to the M.S. in Recreational Therapy program must apply via the Centralized Application Service for Public Health (SOPHAS). The system can be accessed at https://sophas.liaisoncas.com/.

Letters of Reference:

Number Required: 3

From Whom: One letter of recommendation should be written by a faculty member who can comment on your academic ability. The others can be from professional references who can speak to your work-related competencies.

Coursework Required for Admission Consideration: If admitted, students lacking NCTRC national credentialing are required to take leveling and supportive undergraduate courses in addition to the M.S. degree requirements.

Bachelor’s Degree in Discipline/Related Discipline: A baccalaureate degree from an accredited post-secondary school is required. All undergraduate majors are considered. A GPA of 3.0 or higher on a 4.0 scale is required, but applicants with a GPA below 3.0 may be considered for admission based on scores at or above the 65th percentile on the Graduate Record Exam (GRE) or Miller Analogy Test (MAT) or a GPA of 3.25 in 9 credits of graduate-level coursework.

Statement of Goals: A 500- to 1,000-word essay describes your background, interests, accomplishments, and career goals. Specifically, describe why your interests and goals make you a good fit for a career in Recreational Therapy. Include any experience you have working with individuals with disabilities and/or in the recreation field, if applicable. Focus on producing a clear, well-written document, as the master’s program emphasizes scholarly writing.

Standardized Test Scores:

GRE or MAT: Official scores should be sent directly to SOPHAS (https://sophas.liaisoncas.com/applicant-ux) using code 0151. The GRE may be waived for students who have a cumulative GPA of 3.25 or above. This is reviewed on a case-by-case basis, and the applicant should contact the Office of Admissions to discuss further.

TOEFL: 79 iBT or 550 PBT minimum. TOEFL scores should be sent officially to SOPHAS (https://sophas.liaisoncas.com/applicant-ux) using the SOPHAS-specific TOEFL code of 5688.

Clearances: The Recreational Therapy M.S. program requires students to complete clinical/field education experiences at facilities both on and off Temple University’s campuses. These placements require criminal background checks, Act 33/34 clearances, and perhaps a drug screen. Placements may also require the student to maintain personal health insurance and/or to submit proof of a physical and immunization records. The results of these requirements may limit and potentially eliminate placement options for the student, thus resulting in her/his inability to meet graduation requirements. Additionally, conviction of a misdemeanor, felony, or felonious or illegal act may prevent the individual from becoming credentialed and/or licensed to practice in the field of therapeutic recreation.
Resume: Current professional resume required.

Transfer Credit: Graduate credits from an accredited institution are considered for transfer into the M.S. in Recreational Therapy degree program. Such courses are reviewed by the M.S. Program Coordinator to determine whether they are equivalent to coursework offered at Temple and fulfill any degree requirements. The grade must be a "B" or better in order to transfer. The maximum number of credits that may be transferred into the M.S. program is 6. These credits must have been earned within five years of applying to the program.

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate:

- 36 for those who hold NCTRC national certification (see Course Sequence A).
- 36 plus 6 credits of Recreational Therapy-specific leveling coursework for those without NCTRC national certification (see Course Sequence B). Note that other supportive coursework may be required to sit for the national credentialing examination for therapeutic recreation specialist certification. Specialization electives can be used to meet advanced certification from NCTRC after one year of full-time employment as a recreational therapist.

Required Courses:

Course Sequence A (for those with NCTRC national certification)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRPR 5001</td>
<td>Current and Emerging Issues in Public Health and Health Professions</td>
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A1: Required Core Graduate Courses

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>RCTH 5001</td>
<td>Graduate Research I in Recreational Therapy</td>
<td>3</td>
</tr>
<tr>
<td>RCTH 5102</td>
<td>Recreational Therapy: Now and Then</td>
<td>3</td>
</tr>
<tr>
<td>RCTH 5301</td>
<td>Evidence Based Practice in Recreational Therapy I</td>
<td>3</td>
</tr>
<tr>
<td>RCTH 5302</td>
<td>Evidence Based Practice in Recreational Therapy II</td>
<td>3</td>
</tr>
<tr>
<td>RCTH 5311</td>
<td>Conceptual and Contemporary Issues in Recreational Therapy</td>
<td>3</td>
</tr>
<tr>
<td>RCTH 5312</td>
<td>Leisure, Health, and Recreational Therapy Interventions</td>
<td>3</td>
</tr>
<tr>
<td>RCTH 5402</td>
<td>Recreational Therapy Administration and Management</td>
<td>3</td>
</tr>
<tr>
<td>RCTH 5442</td>
<td>Program Planning and Practice in Recreational Therapy</td>
<td>3</td>
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</table>

A2: Electives

Select four of the following based on interests/needs:

<table>
<thead>
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<tr>
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<td>Teaching in Higher Education: Health Professions</td>
</tr>
<tr>
<td>RCTH 5009</td>
<td>Entrepreneurship in the Health Professions</td>
</tr>
<tr>
<td>RCTH 5201</td>
<td>Managing Dementia Care</td>
</tr>
<tr>
<td>RCTH 5204</td>
<td>Recreational Therapy and Assistive Technology</td>
</tr>
<tr>
<td>RCTH 5205</td>
<td>Recreational Therapy in Geriatric Services</td>
</tr>
<tr>
<td>RCTH 5211</td>
<td>Recreational Therapy &amp; Physical Rehabilitation</td>
</tr>
<tr>
<td>RCTH 5212</td>
<td>Play and Development</td>
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</table>

Course Sequence B (for those without NCTRC national certification)

<table>
<thead>
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<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</table>

B1: Required Leveling/Supportive Undergraduate Courses

<table>
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<th>Code</th>
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<tr>
<td>KINS 1223</td>
<td>Human Anatomy and Physiology I</td>
<td>4</td>
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<tr>
<td>PSY 2201</td>
<td>Foundations of Psychopathology</td>
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<tr>
<td>PSY 2301</td>
<td>Foundations of Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>RCTH 3096</td>
<td>Assessment and Documentation in Recreational Therapy</td>
<td>3</td>
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</table>

Additional credits in a variety of Health and Human Service content areas (e.g., medical terminology, public health, social work, sociology, etc.)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCTH 5009</td>
<td>Entrepreneurship in the Health Professions</td>
<td>9</td>
</tr>
<tr>
<td>RCTH 5201</td>
<td>Managing Dementia Care</td>
<td></td>
</tr>
<tr>
<td>RCTH 5204</td>
<td>Recreational Therapy and Assistive Technology</td>
<td></td>
</tr>
<tr>
<td>RCTH 5205</td>
<td>Recreational Therapy in Geriatric Services</td>
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</tr>
<tr>
<td>RCTH 5211</td>
<td>Recreational Therapy &amp; Physical Rehabilitation</td>
<td></td>
</tr>
<tr>
<td>RCTH 5212</td>
<td>Play and Development</td>
<td></td>
</tr>
<tr>
<td>RCTH 5213</td>
<td>Therapeutic Play, Recreation and Children's Health</td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours 36
1. This common College Core course is required of all incoming graduate students in the College of Public Health. It is available completely online and designed such that students can complete the modules at their own pace over the course of their degree program.

2. Depending on one's undergraduate major, some requirements may have already been completed. These credits do not count toward the M.S. credit totals, but are needed in order to be eligible to sit for the NCTRC certification exam (see www.nctrc.org (http://www.nctrc.org)). The M.S. Program Coordinator reviews official transcript(s) and identifies any coursework needed. Any uncompleted requirements may be taken at an institution other than Temple University, with approval of the M.S. Program Coordinator. All required leveling/supportive undergraduate coursework must be completed by the time the student has accrued 15 credits in the M.S. program at Temple University.

3. RCTH 5787 Recreational Therapy Practicum is a 600-hour field placement experience under the supervision of a full-time Certified Therapeutic Recreation Specialist (CTRS) at an approved agency site. The student works with a faculty advisor in the selection of a site for this experience. RCTH 5787 is designed to meet NCTRC internship requirements for eligibility to sit for the NCTRC certification exam.

Culminating Events: Successful completion of coursework constitutes the culminating event.

Contacts
Program Web Address:
https://cph.temple.edu/rs/msrt

Department Information:
Department of Rehabilitation Sciences
Recreational Therapy Program
1700 N. Broad Street, Suite 304
Philadelphia, PA 19121-3429
gsnethen@temple.edu
215-204-2366

Mailing Address for Application Materials:
Dept. of Rehabilitation Sciences/Recreational Therapy Program
1700 N. Broad St, Suite 304 (062-55)
Philadelphia, PA 19121-3429

Department Contacts:
Admissions:
CPH Office of Admissions
cph@temple.edu
215-204-5200

Graduate Program Coordinator:
Gretchen Snethen, Ph.D., CTRS

gsnethen@temple.edu
215-204-2748

Social and Behavioral Sciences, M.P.H.

COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

About the Program
The Department of Social and Behavioral Sciences offers the Master of Public Health in Social and Behavioral Sciences (MPH-SBS). The M.P.H. in Social and Behavioral Sciences is a terminal, professional degree that prepares students to design, implement, and evaluate interventions directed toward identified public health problems in communities. This program aims to prepare public health practitioners to identify and assess the needs of populations; plan, implement, and evaluate programs to address those needs; and ensure that the needs of diverse populations are met to improve their overall health status. The program has a strong focus on addressing the behavioral, social, and cultural factors related to individual and population health and health disparities over the life course, as well as the social and behavioral aspects of community health, health communication, program implementation and evaluation, and health education. Research and practice in this area contribute to the development, administration, and evaluation of programs in public health, which promote and sustain healthy lives for individuals and communities.

Applicants to the M.P.H. in Social and Behavioral Sciences can choose between our on-campus program or our online program. The delivery formats differ, as described below:

1. The on-campus format is designed for students who prefer live interaction with instructors and fellow students; access to campus activities; and the opportunity to choose local Philadelphia fieldwork placements with the assistance of our fieldwork coordinator. Students can enroll full-time or part-time. While some courses may be offered online or in hybrid formats, most of the coursework is delivered in person over a full 16-week semester during evening hours. For more information about the on-campus M.P.H. program, contact Theresa White, Senior Graduate Advisor, at theresawhite@temple.edu or 215-204-5105.

2. The online format is designed for working professionals interested in a part-time program. Courses are structured to include asynchronous assignments plus a once-a-week synchronous class meeting via WebEx. Students in the online program take a sequence of 6-week courses, one at a time, during their enrollment. A fieldwork coordinator works with students to find appropriate placement in their preferred geographic location. For more information about the online M.P.H. program, please contact Dr. Anne Frankel, Online Program Coordinator, at anne.frankel@temple.edu or 215-204-9117.

Time Limit for Degree Completion: 4 years

Campus Location: Main for the on-campus M.P.H. program and online

Full-Time/Part-Time Status: Full-time students usually complete the program within two academic years. Part-time students usually take three to four years to complete their degree.

Interdisciplinary Study: Interdisciplinary M.P.H. coursework, research, and interactions with students and faculty in other departments are encouraged to give students as broad a perspective as possible to excel in the diverse, dynamic, and multidisciplinary field of public health.
health. Through associations with the Center for Obesity Research and Education, the Health Behavior and Research Clinic, the Health Disparities Research Lab, the Risk Communication Laboratory, and the Social and Behavioral Health Interventions Laboratory, among others, students have access to dozens of faculty at Temple University and additional regional scholars who are actively involved in programs, research, and teaching in public health. Further, as with the other four M.P.H. degree programs offered by the College of Public Health, the M.P.H. in Social and Behavioral Sciences can be undertaken as part of nine dual M.P.H. degree programs. Eight on-campus dual M.P.H. degree programs are currently offered:

- D.M.D./M.P.H. with Temple University’s Kornberg School of Dentistry
- D.O./M.P.H. with the Philadelphia College of Osteopathic Medicine
- D.P.M./M.P.H. with the Temple University School of Podiatric Medicine
- J.D./M.P.H. with Temple University’s Beasley School of Law
- M.D./M.P.H. with the Lewis Katz School of Medicine at Temple University
- M.H.A./M.P.H. with Temple University’s Fox School of Business and Management
- M.P.P./M.P.H. with Temple University’s College of Liberal Arts
- M.S. Health Informatics/M.P.H. within the Temple University College of Public Health

A ninth dual degree program, namely, the M.S.W./M.P.H. with the Temple University School of Social Work, is offered both on campus and online.

For more information, visit https://cph.temple.edu/mph/dual-degrees.

Affiliation(s): On-campus M.P.H. students choose from a wide range of community agency fieldwork placement options throughout Philadelphia as a result of dozens of affiliation agreements with the program. For example, the program has long-standing research and fieldwork affiliations with The Food Trust, Fox Chase Cancer Center, the Health Federation of Philadelphia, NORTH, Inc. (managers of the Philadelphia WIC program), the Philadelphia Department of Public Health, the Public Health Management Corporation (PHMC) and its subsidiaries, the School District of Philadelphia, and many other community health agencies.

The fieldwork coordinator assists online students in finding appropriate placement in their preferred geographic region.

Study Abroad: Depending on faculty availability, study abroad opportunities may be offered during the summer and are open to both undergraduate and graduate students.

Accreditation: The M.P.H. is fully accredited by the Council on Education for Public Health (CEPH). Temple’s M.P.H. programs first achieved accreditation in 1985 and are among the longest established accredited M.P.H. programs in the region.

Areas of Specialization: In addition to the M.P.H. program in Social and Behavioral Sciences offered on Main campus, the College of Public Health offers four other on-campus M.P.H. programs with different specialty fields of study:

- Applied Biostatistics (APBS)
- Environmental Health (ENVH)
- Epidemiology (EPID)
- Health Policy and Management (HPM)

Job Prospects: Graduates with an M.P.H. in Social and Behavioral Sciences have gained employment in a wide range of health-related settings, including state and local public health departments, community-based organizations, voluntary health agencies, health maintenance organizations, hospitals, clinics, schools, and work sites. Graduates are employed as health educators and counselors, evaluation specialists, marketing specialists, prevention specialists, project directors, research and community health program managers, HIV/AIDS coordinators, infection control coordinators, adjunct faculty, and consultants. Virtually all students are placed within three to six months of graduation.

Licensure: Students who complete an M.P.H. at Temple University may be eligible to sit for the Certification in Public Health (CPH) exam and the Certified Health Education Specialist (CHES) exam.

Non-Matriculated Student Policy: Non-matriculated students are required to speak with an advisor and to obtain the permission of the professor before registering for classes, whether the coursework is taken in the on-campus or online format. If accepted to the program, a maximum of three courses may be applied toward the degree program. Exceptions to this policy relate to formal certificate programs.

Financing Opportunities: In both the Fall and Spring terms, the College of Public Health and Department of Social and Behavioral Sciences award a limited number of partial scholarships on a competitive basis to students with an outstanding academic record. No separate application is needed for these awards as outstanding applicants are automatically considered following submission of their application.

Limited Teaching and Research Assistantships are available to on-campus M.P.H. students in the College of Public Health. The Graduate School website details levels of support, benefits, and the terms and conditions of these types of graduate student support at http://www.temple.edu/grad/finances/. Assistantships are awarded on a term or annual basis. Students whose Fall applications are complete prior to or at the application deadline are reviewed for eligibility for Teaching Assistant (TA) positions. TAs may work up to 20 hours per week in any combination of teaching assignments made by the department and must meet the English Language Proficiency standards set by the University and the College. Students who hold Teaching or Research Assistantships are not permitted to hold other employment without the written prior approval of their advisor, the Director of Graduate Studies, and the Graduate School. To be considered for a TA or RA position, complete an application form that is sent to students upon admission to the M.P.H. program. For more information, contact Theresa White, Senior Graduate Advisor, at theresawhite@temple.edu or 215-204-5105.

Students may also be eligible for financial support through the Office of Student Financial Services. See http://sfs.temple.edu/.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

All applicants to the M.P.H. program must apply via the Centralized Application Service for Public Health (SOPHAS). The system can be accessed at https://sophas.liaisoncas.com/.

Applicants should check their application status on the SOPHAS (https://sophas.liaisoncas.com/applicant-ux) portal often and inquire directly of SOPHAS about receipt of materials. For other questions, please contact
Theresa White, Senior Graduate Advisor, at theresawhite@temple.edu or 215-204-5105.

Deposit Deadline for Admitted Applicants:

Fall: April 30
Spring: December 15

Applicants who are accepted to the program must pay a $500 deposit to secure their enrollment. For questions about the deposit and payment process or to request an extension, contact Theresa White, Senior Graduate Advisor, at theresawhite@temple.edu or 215-204-5105.

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation, which are completed electronically through the SOPHAS (https://sophas.liaisoncas.com/applicant-ux) system, should be obtained from college/university faculty members familiar with academic competence. If the applicant has been out of school for a long time, please ensure that letters are from supervising employers or professional colleagues who can speak to the applicant’s academic abilities, such as writing and research.

Coursework Required for Admission Consideration: Applicants’ files are reviewed for undergraduate coursework in mathematics and/or statistics, social science, and writing.

Bachelor’s Degree in Discipline/Related Discipline: A baccalaureate degree is required.

Statement of Goals: Within 1,000 words, address the following items:

• What are your interests in Public Health, and why are you planning to pursue an M.P.H. in Social and Behavioral Sciences?
• What are your future career goals, and what have you done either academically or professionally to guide your interest in Public Health and to begin preparation toward your career goals?
• Are there any exceptional circumstances related to previous academic performance that you would like the Admissions Committee to consider?

Standardized Test Scores:

GRE: Required. While the program takes a portfolio approach to admissions, standardized tests provide important insight into quantitative and verbal abilities. Minimum scores around the 50th percentile on the verbal and quantitative sections are preferred.

Applicants who have a minimum GPA of 3.00 on undergraduate mathematics or statistics courses and have an undergraduate cumulative GPA of at least 3.25 may request that their GRE scores be waived from consideration in their application portfolio. To request a waiver or if you have other questions, contact Theresa White, Senior Graduate Advisor, at theresawhite@temple.edu or 215-204-5105.

Standardized tests considered in lieu of the GRE include DAT, GMAT, LSAT, MCAT, OAT, and PCAT.

TOEFL: 79 iBT or 550 PBT minimum

Clearances: The M.P.H. programs require students to complete clinical/field education experiences at facilities both on and off Temple University’s campuses. These placements may require criminal background checks, Act 33/34 clearances, and perhaps a drug screen.

The results of these requirements may limit and potentially eliminate placement options, which can, in turn, result in the student’s inability to meet graduation requirements.

Resume: Current resume required.

Transfer Credit: Graduate credits earned through other M.P.H. programs accredited by the Council on Education for Public Health (CEPH) may be transferred into Temple’s M.P.H. in Social and Behavioral Sciences program. The credits must be equivalent to coursework offered at Temple, and the grade must be a “B” or better in order to transfer. The Director of Graduate Studies approves the transfer of credits based on a review of course materials provided by the student. The maximum number of credits a student may transfer is 9.

Test Waivers: Graduates with a terminal degree from a U.S. medical school, foreign-trained physicians who have obtained licensure to practice in the United States, and those with Ph.D.’s may have the GRE requirement waived.

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 45

Required Courses:

On-Campus MPH-SBS

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<th>Code</th>
<th>Title</th>
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<tr>
<td>SBS 8001</td>
<td>Research Methods in Public Health</td>
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<tr>
<td>SBS 8009</td>
<td>Health Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SBS 8105</td>
<td>Health Communication</td>
<td>3</td>
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<td>SBS 8111</td>
<td>Public Health Program Planning</td>
<td>3</td>
</tr>
<tr>
<td>SBS 8005</td>
<td>Health Promotion in Vulnerable Populations</td>
<td>3</td>
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Additional Electives

Select two courses from the following:

SBS 5105 Maternal and Child Health
SBS 8002 Research Seminar in Public Health
SBS 8006 Addictions and Dependencies
SBS 8018 Obesity: From Genes to Junk Food

M.P.H. Fieldwork Experience

SBS 9289 MPH Fieldwork I
SBS 9389 MPH Fieldwork II

Total Credit Hours 45

1 With program permission, a special elective needed to complete a certificate program may be substituted for SBS 8005.
## Online MPH-SBS

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<thead>
<tr>
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<th></th>
<th>Credit Hours</th>
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</tr>
<tr>
<td>SBS 5001</td>
<td>Fundamentals of Public Health</td>
<td>3</td>
</tr>
<tr>
<td>SBS 8009</td>
<td>Health Psychology</td>
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<td><strong>Term Credit Hours</strong></td>
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<tr>
<td><strong>Spring</strong></td>
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<td></td>
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<tr>
<td>EPBI 5101</td>
<td>Fundamentals of Epidemiology</td>
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<tr>
<td>HPM 5006</td>
<td>Political and Economic Aspects of Health</td>
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<tr>
<td><strong>Summer</strong></td>
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<tr>
<td>EPBI 5002</td>
<td>Biostatistics</td>
<td>3</td>
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<tr>
<td>SBS 5102</td>
<td>Theoretical Foundations of Health Behavior</td>
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<td><strong>Fall</strong></td>
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<tr>
<td>ENVH 5103</td>
<td>Environmental Health</td>
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<td><strong>Term Credit Hours</strong></td>
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<tr>
<td><strong>Spring</strong></td>
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<tr>
<td>SBS 8005</td>
<td>Health Promotion in Vulnerable Populations</td>
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<td><strong>Summer</strong></td>
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<td><strong>Term Credit Hours</strong></td>
<td></td>
<td>6</td>
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</table>

<table>
<thead>
<tr>
<th>Year 3</th>
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<tr>
<td><strong>Fall</strong></td>
<td></td>
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</tr>
<tr>
<td>SBS 8001</td>
<td>Research Methods in Public Health</td>
<td>3</td>
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<tr>
<td>SBS 9289</td>
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<td>3</td>
</tr>
<tr>
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<tr>
<td><strong>Spring</strong></td>
<td></td>
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<tr>
<td>SBS 9389</td>
<td>MPH Fieldwork II</td>
<td>3</td>
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<tr>
<td><strong>Term Credit Hours</strong></td>
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<td>3</td>
</tr>
<tr>
<td><strong>Total Credit Hours:</strong></td>
<td></td>
<td>45</td>
</tr>
</tbody>
</table>

### Internship:

An internship is required as part of a student's M.P.H. fieldwork.

### Culminating Events:

#### Fieldwork Practicum:

The M.P.H. fieldwork practicum is the capstone experience of the M.P.H. educational program and takes place over two terms during the student's final year in the program. The fieldwork practicum requires a student to synthesize and integrate the knowledge acquired in coursework and other learning experiences and to apply theory and principles in a placement that approximates some aspect of professional practice. The internship or practicum experience occurs in a public health agency or under the supervision of a faculty preceptor and in conjunction with two semester courses (SBS 9289 and SBS 9389) taught by department faculty. The M.P.H. fieldwork experience is required by the Council on Education for Public Health (CEPH), the accrediting body of all U.S. schools of public health, for completion of the M.P.H. degree. In addition, this culminating experience provides the student with the opportunity to develop expertise in a topic area and to contribute original and independent observations to a body of knowledge.

For the culminating experience to fulfill the requirements of SBS 9289 and SBS 9389, M.P.H. in Social and Behavioral Sciences students are expected to complete a fieldwork experience, which enables them to:

- Explain the contributions of social and behavioral sciences to public health.
- Describe health problems, including their social, cultural, environmental, and behavioral causes.
- Ensure that social and behavioral science theories and concepts are used in planning and evaluating public health programs.
- Use behavioral science and health promotion methods in planning/evaluating public health programs.
- Apply ethical principles to public health program planning, implementation, and evaluation.
- Identify multiple targets and levels of intervention for social and behavioral science programs and/or policies, including individual, family, network, organizational, community, policy, physical environment, and culture.

A final paper is the required deliverable for the M.P.H. fieldwork requirement. Students must also demonstrate their proficiency and the application of theory and principles in the paper and demonstrate mastery of the required competencies during the oral defense. The evaluation of the M.P.H. fieldwork practicum experience, therefore, is integrated into the culminating experience requirement.

### Contacts

#### Program Web Address:

https://cph.temple.edu/socialbehavioral/programs-offered/graduate/public-health-mph

#### Department Information:

Dept. of Social and Behavioral Sciences
Ritter Hall Annex, 9th Floor (004-09)
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6005
publichealth@temple.edu
215-204-8726

#### Submission Address for Application Materials:

https://sophas.liaisoncas.com/

#### Department Contacts:

**Admissions:**
CPH Office of Admissions
cph@temple.edu
215-204-5200

**Director of Graduate Studies:**
Bradley N. Collins, Ph.D.
collinsb@temple.edu
Assistantships. Students in the PhD-SBS program also are expected to participate in ongoing professional development opportunities, such as the monthly SBS graduate student seminar series, as well as journal clubs, colloquia, and brown-bag research presentations.

**Time Limit for Degree Completion:** 7 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** Full-time study is preferred.

**Interdisciplinary Study:** Students are encouraged to develop programs of study that are interdisciplinary in nature, involving coursework or scholarly activities across departments, schools, and colleges.

**Affiliation(s):** Students are expected to work in close collaboration with their faculty research mentor in the Department of Social and Behavioral Sciences. In addition, students can consider collaborative research projects across affiliated units within the College of Public Health in coordination with their developing line of research and with approval of their research mentor and the Program Director. A list of active research centers can be found on the College of Public Health website at [https://cph.temple.edu/research](https://cph.temple.edu/research). Faculty and doctoral students also are involved in research with affiliates across the university, including the Fox Chase Cancer Center, the Fox School of Business and Management, the Institute on Aging, the Institute on Disabilities, the Lewis Katz School of Medicine, the Lew Klein College of Media and Communication, and the School of Podiatric Medicine. Additional research opportunities at Temple University include the Institute for Survey Research, the Office of Institutional Research and Assessment, and the Social Science Data Library.

**Job Prospects:** Students in the program develop public health content expertise and skills in research, scholarship, teaching, and grant writing. Therefore, graduates of the PhD-SBS program are prepared to become faculty members or researchers in colleges and universities or to hold research-related positions in a wide range of organizations, such as agencies promoting community and public health, consulting firms, foundations, healthcare systems, nonprofits, and research centers. Graduates are employed in health systems, hospitals and clinics, public health departments, public health and other healthcare and human service agencies, and universities.

**Non-Matriculated Student Policy:** Doctoral coursework is open only to students enrolled in the program.

**Financing Opportunities:** Full-time Ph.D. students generally receive financial support through a combination of fellowships and assistantships.

**University Fellowships:**
University fellowships provide a stipend and tuition for two years of study. The College of Public Health provides assistantships to cover two additional years of study. The Department of Social and Behavioral Sciences nominates outstanding applicants for consideration for the following fellowship opportunities:

- Presidential Fellowships are the most prestigious awards. Competition is reserved for only the most outstanding candidates.
- University Fellowships are awarded to outstanding incoming graduate students. These awards are intended to support students who demonstrate outstanding potential for success in their chosen fields.
- Future Faculty Fellowships are intended to attract outstanding students who would diversify the professoriate. Candidates are newly admitted graduate students from underrepresented groups in the applicant’s discipline who show exceptional leadership and/or have
overcome significant obstacles in pursuing an academic career. For more information, visit http://www.temple.edu/grad/finances/fff_program.htm.

**College of Public Health Graduate Assistantships:**
Graduate assistantships sponsored by the College of Public Health include the following:

- Research Assistants (RAs) perform supervised research activities. Research assistantships are frequently supported by faculty grant funding, and it is anticipated the RAs will work with faculty members on new and continuing grant proposals and develop both research and grant-writing competencies.
- Teaching Assistants (TAs) support faculty in the teaching of courses, with activities that include grading examinations/papers or teaching occasional lecture sections. One purpose of a TA opportunity is to develop competencies in current pedagogies that prepare students for academic teaching careers.

TAs and RAs provide 20 hours of service per week. Both assistantships carry a stipend and typically tuition remission for up to 9 credits per term. Consideration for admission with an assistantship requires a description of research and teaching experience; a statement of research and teaching goals; and identification of areas of interest, including identification of potential faculty mentors and articulation of career goals consistent with the mission and purpose of the PhD-SBS program. Offers of admission are generally accompanied by a fellowship or assistantship offer. Students with full funding from another source (e.g., government funding) are given full consideration in the admission process. Self-funding through external employment is highly discouraged.

 Applicants display an exemplary academic record and potential for scholarship, but their research interests and area of emerging expertise must match those of Graduate Faculty who are available to take a new student. All applicants to the PhD-SBS program must apply via the Centralized Application Service for Public Health (SOPHAS). The system can be accessed at https://sophas.liaisoncas.com/.

All application materials must be received by the deadline in order to be reviewed by the Ph.D. Admissions Committee. Admission is competitive, and students are admitted only once a year. Applications are evaluated together after the deadline has passed. Applications that are completed after the deadline are held for review the following year. An important component of the admissions decision is the fit between the applicant's goals, experiences, and interests and the expertise of the faculty in the Ph.D. program who are designated as "Graduate Faculty" and available to mentor an incoming student.

**Letters of Reference:**
*Number Required: 3*

*From Whom:* Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's academic and research experiences and talents, as well as comment on the applicant's aptitude for doctoral-level study and research. Recommendations from college/university faculty members are preferred.

**Coursework Required for Admission Consideration:** Applicants are expected to have completed coursework in the natural, social, or behavioral sciences related to health. Coursework in statistics and research methods is desirable. The following prerequisites, which do not count toward the Ph.D., must also be satisfied, either through an M.P.H. degree or course equivalency:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tr>
<td>ENVH 5103</td>
<td>Environmental Health</td>
<td>3</td>
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<tr>
<td>EPBI 5002</td>
<td>Biostatistics</td>
<td>3</td>
</tr>
<tr>
<td>EPBI 5101</td>
<td>Fundamentals of Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>HPM 5006</td>
<td>Political and Economic Aspects of Health</td>
<td>3</td>
</tr>
<tr>
<td>or HPM 8003</td>
<td>Political-Economic Aspects of Public Health</td>
<td></td>
</tr>
<tr>
<td>SBS 5102</td>
<td>Theoretical Foundations of Health Behavior</td>
<td>3</td>
</tr>
</tbody>
</table>

**Master's Degree in Discipline/Related Discipline:** Nearly all students admitted to the program have a master's degree. Although a master's degree specifically in Public Health is not required, preference is given to applicants who have a background in the health sciences, including behavioral medicine, environmental health, epidemiology, health communication, health psychology, medicine, or a public health discipline.

**Bachelor's Degree in Discipline/Related Discipline:** A baccalaureate degree is required, although it need not be in Public Health. Preference is given to applicants who have a background in the health sciences, including behavioral medicine, environmental health, epidemiology, health communication, health psychology, medicine, or a public health discipline.

**Statement of Goals:** In no more than 750 words:

- identify the Social and Behavioral Sciences doctorate as the program for which you wish to be considered and why;
- describe important academic and research achievements and interests; and
- specify how your research interests relate to your ultimate career goals and to ongoing work by faculty members affiliated with the PhD-SBS program.

The match between faculty and student interests is important in the admissions decision. Be sure to articulate clearly the linkages among your training goals, the expertise of our faculty, and the training emphasis of the Ph.D. program. For a description of faculty interests and active research, visit https://cph.temple.edu/socialbehavioral/about-us/faculty. Ensure you have identified a Graduate Faculty member in the Department of Social and Behavioral Sciences.

**Standardized Test Scores:**
GRE: Required. The median score of recently admitted applicants is above the 50th percentile on the verbal and quantitative subscales.

TOEFL (international applicants only): 79 iBT or 550 PBT minimum.

**Resume:** Current CV required.

**Writing Sample:** Scholarly articles, technical reports, or academic papers are preferred. Unless it is a published work (e.g., a book chapter.
or peer-reviewed journal article), the writing sample should be no more than 10 pages.

**Advanced Standing:** A student enrolled in the PhD-SBS program may apply for advanced standing credits for graduate coursework graded “B” or better from an accredited institution. Credits for courses taken as part of a master’s degree are considered; credits for thesis, fieldwork, clinical practice, or directed projects/readings cannot be used for advanced standing credit. To be approved for advanced standing, the courses must be deemed appropriate as part of the student’s training in the PhD-SBS program. The maximum number of advanced standing credits awarded is 9.

**Program Requirements**

**General Program Requirements:**
- **Total Number of Credits Required:** 45 (some of which may be in the form of Advanced Standing credit, as determined after matriculation)

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tr>
<td><strong>College Core Courses</strong></td>
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<tr>
<td>HRPR 5001</td>
<td>Current and Emerging Issues in Public Health and Health Professions</td>
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<tr>
<td>Teaching Practicum</td>
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<tr>
<td><strong>SBS Core Courses</strong></td>
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<td></td>
</tr>
<tr>
<td>SBS 8005</td>
<td>Health Promotion in Vulnerable Populations</td>
<td>3</td>
</tr>
<tr>
<td>SBS 8009</td>
<td>Health Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SBS 8105</td>
<td>Health Communication</td>
<td>3</td>
</tr>
<tr>
<td>SBS 8111</td>
<td>Public Health Program Planning</td>
<td>3</td>
</tr>
<tr>
<td><strong>Research and Methods Courses</strong></td>
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</tr>
<tr>
<td>EPBI 8012</td>
<td>Multivariable Biostatistics ¹</td>
<td>3</td>
</tr>
<tr>
<td>EPBI 8201</td>
<td>Structural Equation Modeling ¹</td>
<td>3</td>
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<tr>
<td>EPBI 8212</td>
<td>Grantsmanship in Health Research</td>
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<tr>
<td>HRPR 5999</td>
<td>Research Experience in Health Professions ²</td>
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<td>SBS 9994</td>
<td>Preliminary Examinations</td>
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<td>SBS 9998</td>
<td>Dissertation Proposal Research</td>
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<tr>
<td>SBS 9999</td>
<td>Dissertation Research</td>
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</table>

**Total Credit Hours** 45

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¹ Students may select an alternate advanced statistics course with the approval of a faculty advisor.

² Students discuss gaps in their training or areas for scholarship development with their mentor prior to completing the first four academic terms in the program. Based on this planning, students engage in a project with a research mentor, as approved by the Director of Graduate Studies.

³ Electives may include, for example, EPBI 8204 Multilev Mod in Int Res, HPM 8008 Health Economics, HRPR 8985 Teaching in Higher Education: Health Professions, SBS 8006 Addictions and Dependencies, SBS 8018 Obesity: From Genes to Junk Food, and SBS 9083 Readings and Conference in Public Health. Students may select other electives with the approval of a faculty advisor.

⁴ The Graduate School requires that students complete a minimum of 6 credits that include SBS 9994, SBS 9998, and SBS 9999. Of the 6 credits, at least 2 credits must be earned in the dissertation phase (SBS 9999).

**Culminating Events:**

**Area Paper:**
Prior to sitting for the preliminary examinations, students must have successfully published or written a publishable paper in their chosen area of research interest. The purpose of the paper requirement is to demonstrate critical and interpretive knowledge in specialized areas of one’s chosen program, as well as a high proficiency in written communication and a capacity to contribute to generalizable knowledge in the field. The student must be the lead or sole author. For students who enter the program without already having published a first-authored, peer-reviewed article, they typically initiate efforts toward this requirement during their first term of residency.

A student cannot advance to the preliminary examinations without passing the paper requirement. Failure to satisfactorily complete the area paper requirement within the specified time frame can result in dismissal from the Ph.D. program. Students who are entering the Ph.D. program and have already published a peer-reviewed paper related to their programmatic subdiscipline can request to waive this requirement by completing a waiver application and submitting it along with the published document to the Director of Graduate Studies.

**Preliminary Examinations (SBS 9994):**
Students typically take their preliminary examinations during their third year of residency in the program, after completing the paper requirement. All students are required to take the preliminary examinations prior to completing and defending their dissertation research proposal. The preliminary examinations are designed to test fundamental core competencies of the students’ training. The exams should be taken within one term of completing all coursework. The student must register for 1 credit of SBS 9994 in the term in which the examinations are taken. To register for SBS 9994, the student must have completed all coursework or be enrolled in final courses in the term in which the examinations are taken. The examinations cannot be taken until all incomplete and/or “NR” grades are removed and the area paper requirement has been satisfied. Students are required to meet with their advisor and Director of Graduate Studies before the beginning of the term in which they plan to take the examinations to establish eligibility. Special authorization is required to register.

The preliminary examinations consist of the following components:

- Two one-week take-home written examinations, with an emphasis on the student’s concentration, about:
  1. the history and bioethics of Public Health, and
  2. the scientific foundations of Public Health.
- Methods exam, which is a four-hour in-class examination on research methods and statistics.

Students who fail these exams may have one opportunity to take the examinations again. A second failure results in automatic dismissal from the Ph.D. program.

**Dissertation Proposal (SBS 9998):**
After passing the preliminary examinations, students may enroll in SBS 9998. Students must be enrolled for 1 credit of SBS 9998 each term until they file their dissertation proposal with the Graduate School.

All students must form a Doctoral Advisory Committee (DAC) with the approval of the Director of Graduate Studies. The DAC is composed of at least three Faculty members: two members, including the chair, must be from the Ph.D. program faculty of the relevant department. The DAC Chair must be approved as Doctoral Graduate Faculty by the Dean of the College of Public Health and by the Graduate School. The chair is responsible for overseeing and guiding the student's progress; coordinating the responses of the Committee members; and informing the student and the Director of Graduate Studies annually of the student's academic progress. A fourth, external reader is also required at the time of the final dissertation defense. This person must be a member of the Graduate Faculty at Temple or approved by the Dean of the College to take part in the final dissertation examination. This fourth member is not required to be present at the defense of the proposal.

To fulfill the requirements of SBS 9998, students must submit a dissertation proposal, successfully defend it orally before their Committee, apply for IRB approval for the proposed research, and submit the proposal to the Graduate School. Students have a maximum of one year from the time of completing their preliminary examinations to develop and defend their dissertation proposal. Thus, students may enroll in SBS 9998 for only two terms without permission. Students needing more time may, with the support of their advisor, formally petition the Director of Graduate Studies for an extension, although an extension is not guaranteed. Failure to meet these requirements can result in dismissal from the program.

Dissertation (SBS 9999):
The doctoral dissertation is an original theory-based research study that makes a significant contribution to the field of Public Health. It should expand existing knowledge and demonstrate the student's mastery of theory and research methods, particularly within a concentration or specialty area. The research should be rigorous, while upholding the ethics and standards of the field. Students are expected to submit their dissertation study for publication and presentation to professional audiences.

To fulfill the dissertation requirement, students must prepare and orally defend the final dissertation in a public meeting. Students should present their plans for publishing their dissertation as part of their defense. Students must be enrolled continuously for at least 3 credits of dissertation research until their dissertation is successfully defended. The Graduate School requires a minimum of 2 credits of SBS 9999. Students must be enrolled in the course in the term that they graduate.

The Dissertation Examining Committee (DEC) consists of the DAC plus at least one additional external reviewer. The external reviewer must be doctorally prepared. If this person is not a member of the Temple University Graduate Faculty, s/he must be approved by the Director of Graduate Studies, the Dean of the College, and the Graduate School to take part in the final dissertation examination. The DEC evaluates the student's written dissertation and oral defense, including the student's ability to articulate orally the research question; methodological approach; primary findings; interpretation of the findings; and implications for theory, research, and practice. The DEC votes to pass or fail the dissertation and the defense at the conclusion of the public presentation.

If a student needs to change a member of a committee, the new member must be approved by the Director of Graduate Studies and registered with the Graduate School.

Students who are preparing to defend their dissertation should confirm a time and date with their DEC and work with their department's administrative assistant to secure a room. This should be done at least one month in advance of the proposed date. The Administrative Assistant arranges the time, date, and room within two working days. After the time, date, and room are secured, the student must send to the Graduate School a completed “Announcement of Dissertation Defense” form, found in TPortal under the Tools tab within “University Forms.” This must be submitted at least 10 working days before the defense. The department posts flyers announcing the defense, and the Graduate School lists the defense on its website.

Contacts
Program Web Address:
https://cph.temple.edu/socialbehavioral/programs-offered/graduate/public-health-phd

Department Information:
Dept. of Social and Behavioral Sciences
Ritter Hall Annex, 9th Floor (004-09)
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6005
publichealth@temple.edu
215-204-8726

Submission Address for Application Materials:
https://sophas.liaisoncas.com/

Department Contacts:
Admissions:
Annemarie Szambelak
CPH Office of Admissions
cph@temple.edu
215-204-5200

Director of Graduate Studies:
Bradley N. Collins, Ph.D.
collinsb@temple.edu
215-204-2849

Chairperson:
Stephen Lepore, Ph.D.
stephen.lepore@temple.edu
215-204-8726

Speech, Language and Hearing Science, M.A.

About the Program
The M.A. program in Speech, Language and Hearing Science (MA-SLH) is committed to the education of high-quality clinical professionals able to deal creatively with the broadest possible range of populations,
settings, and speech-language-swallowing disorders. The program provides students with a rich variety of supervised clinical experiences at its own Temple University Speech-Language-Hearing Center (TUSLHC) on Main campus and at more than 80 field affiliate settings throughout the Delaware Valley. In addition, the department maintains strong connections with faculty members and practitioners at Temple University Hospital, the Lewis Katz School of Medicine at Temple University, and other departments in the College of Public Health. Graduates of the program have consistently gone on to significant careers throughout the United States and abroad. Opportunities exist for pursuing research interests under faculty guidance through independent study courses or the writing of a master's thesis.

**Time Limit for Degree Completion:** 2 years (six terms, including required enrollment in two summer sessions) with a bachelor's degree in Communication Sciences and Disorders; 3 years (eight or nine terms, including required enrollment in two or three summer sessions) without a bachelor's degree in Communication Sciences and Disorders.

**Campus Location:** Main

**Full-Time/Part-Time Status:** Students complete the degree program through full-time enrollment.

**Interdisciplinary Study:** The faculty itself is interdisciplinary with representation from Audiology, Cognitive and Neuropsychology, Linguistics, Speech Motor Control, and Speech-Language Pathology. A colloquium series and series of grand rounds presentations include speakers from outside the department and the university.

**Affiliation(s):** The program has research affiliations with the Temple University Hospital and Lewis Katz School of Medicine; the American Institute for Voice and Ear Research; MossRehab; New York University; The Pennsylvania State University; University of California, Irvine; University of North Carolina; and University of South Florida. The tri-state area around Philadelphia offers a culturally diverse setting with urban, suburban, and even rural areas, affording a variety of opportunities for students to engage in clinical practice in over 80 affiliated clinical sites that include schools, acute care and rehabilitation hospitals, skilled nursing facilities, private practice, and early intervention agencies.

**Ranking:** The program is ranked 29th nationally among approximately 250 ASHA-certified programs.

**Accreditation:** The Master of Arts in Speech, Language and Hearing Science (MA-SLH) education program at Temple University is accredited by the Council on Academic Accreditation in Audiology and Speech Language Pathology (CAA) of the American Speech-Language-Hearing Association, 2200 Research Boulevard #310, Rockville, Maryland 20850, 800-498-2071 or 301-296-5700.

**Areas of Specialization:** Students completing the master's program are generalists with expertise in a wide variety of disorders and population types. Courses and supervised diagnostic and therapeutic experiences involve both children and adults, and encompass a range of disorders, including dysfluency, dysphagia, hearing disorders, language disorders, motor speech disorders, phonological disorders, and voice disorders. Faculty conduct supervised research in such areas as phonological, syntactic, and pragmatic development and language disorders in monolingual and bilingual children, adult aphasia, voice disorders, communication in aging individuals, and speech physiology.

**Job Prospects:** Graduates are employed in hospitals, rehabilitation centers, schools, private practices, and universities. The placement rate for graduates seeking employment in the field is 100%.

**Licensure:** To complete the process for the Certificate of Clinical Competence in Speech-Language Pathology (CCC-SLP) from the Council for Clinical Certification (CFCC) of the American Speech-Language-Hearing Association, graduates must pass the national Praxis® examination in Speech-Language Pathology and must complete a Clinical Fellow experience after graduation. Graduates of the program are eligible to apply for the Instructional I Certificate through the Pennsylvania Department of Education upon successful completion of the Praxis® examination in Speech-Language Pathology and the Praxis® Fundamental Subjects: Content Knowledge examination. Additional state-mandated requirements may apply for graduates employed in the public schools in states other than Pennsylvania. Each state has its own licensing procedures in addition to those of the CCC-SLP.

**Non-Matriculated Student Policy:** Non-matriculated students must have departmental permission to enroll in graduate courses. No more than 9 credits of graduate coursework taken as a non-matriculated student may be counted toward the degree. In order to enroll in courses as a non-matriculated student, individuals must supply the department with an official transcript from their undergraduate institution and syllabi from the courses that satisfy the prerequisite requirements for the graduate-level courses the student is requesting to take. A grade of "B-" or better must have been attained in the prerequisite classes, and an overall undergraduate GPA greater than 3.0 must have been earned. If these requirements are met, non-matriculated students, with the department's permission, are permitted to take up to three of the following four courses:

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tr>
<td>CSCD 5521</td>
<td>Foundations in Child Language Disorders (Fall)</td>
<td>3</td>
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<tr>
<td>CSCD 5522</td>
<td>Foundations and Management in Phonological Disorders (Fall)</td>
<td>3</td>
</tr>
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<td>CSCD 5525</td>
<td>Foundations and Management in Fluency (Summer)</td>
<td>3</td>
</tr>
<tr>
<td>CSCD 8726</td>
<td>Management of Child Language Disorders (Spring)</td>
<td>3</td>
</tr>
</tbody>
</table>

For more information, contact Dawn Dandridge (ddandrid@temple.edu), Coordinator of Student Services.

**Financing Opportunities:** For information on financial aid, please contact the Office of Student Financial Services at 215-204-2244.

**Admission Requirements and Deadlines**

**Application Deadline:**

**Fall:** February 1

All applicants to the M.A. program in Speech, Language and Hearing Science must apply via the Communication Sciences and Disorders Centralized Application Service (CSDCAS). The system can be accessed at https://csdcas.liaisoncas.com/.

**Letters of Reference:**

**Number Required:** 3

**From Whom:** Recommendations should be obtained from teachers, clinical supervisors, or others who can speak to the applicant's academic
or clinical abilities and personal integrity. Two of the recommendations must be professional/academic in nature.

Coursework Required for Admission Consideration: Prerequisites to graduate study, which may be taken during the first year of graduate study if not completed previously, include the following courses or equivalent subject knowledge:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tr>
<td>CSCD 2201</td>
<td>Research Methods in Communication Sciences</td>
<td>3</td>
</tr>
<tr>
<td>CSCD 2209</td>
<td>Phonetics and Phonology</td>
<td>4</td>
</tr>
<tr>
<td>CSCD 2219</td>
<td>Psycholinguistics</td>
<td>4</td>
</tr>
<tr>
<td>CSCD 3233</td>
<td>Basic Speech Science</td>
<td>4</td>
</tr>
<tr>
<td>CSCD 3234</td>
<td>Basic Hearing Science</td>
<td>4</td>
</tr>
<tr>
<td>CSCD 3235</td>
<td>Human Neuroscience</td>
<td>4</td>
</tr>
<tr>
<td>CSCD 3301</td>
<td>Speech and Language Development</td>
<td>3</td>
</tr>
<tr>
<td>CSCD 4301</td>
<td>Principles of Audiology</td>
<td>3</td>
</tr>
<tr>
<td>CSCD 4396</td>
<td>Orientation to Clinical Management</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours: 32

Bachelor's Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Statement of Goals: One writing sample is required. It should address your goals and the prompts outlined on the CSDCAS (https://csdcas.liaisoncas.com/applicant-ux) application.

Standardized Test Scores:
GRE: Required. Scores on the verbal and quantitative sections are expected to fall at or above the 50th percentile.
TOEFL: 79 iBT or 550 PBT minimum.

Clearances: The Speech, Language and Hearing Science M.A. program requires students to complete clinical/field education experiences at facilities both on and off Temple University's campuses. These placements require criminal background checks, Act 33/34 clearances (for working with children and vulnerable populations), and often a drug screen and CPR certification. The results of these requirements may limit and potentially eliminate placement options for the student, thus resulting in her/his inability to meet graduation requirements. Additionally, conviction of a misdemeanor, felony, or felonious or illegal act may prevent the student from becoming credentialed and/or licensed to practice as a Speech Language Pathologist.

Transfer Credit: On the recommendation of the student's advisor, the department may accept transfer of graduate credits from an accredited institution. Grades must be “B” or better. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:
Number of Total Credits Required Beyond the Baccalaureate: 54-59, including 39 credits of academic coursework and 15-20 credits of clinical coursework

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSD 5521</td>
<td>Foundations in Child Language Disorders</td>
<td>3</td>
</tr>
<tr>
<td>CSD 5522</td>
<td>Foundations and Management in Phonological Disorders</td>
<td>3</td>
</tr>
<tr>
<td>CSD 5524</td>
<td>Foundations in Motor Sp</td>
<td>3</td>
</tr>
<tr>
<td>CSD 5525</td>
<td>Foundations and Management in Fluency</td>
<td>3</td>
</tr>
<tr>
<td>CSD 5527</td>
<td>Foundations and Rehabilitation of Language and Cognitive Disorders in Aphasia</td>
<td>3</td>
</tr>
<tr>
<td>CSD 5528</td>
<td>Voice Disorders: Theory and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>CSD 5531</td>
<td>Applications in Audiology</td>
<td>1</td>
</tr>
<tr>
<td>CSD 5532</td>
<td>Foundations and Management in Hearing Disorders</td>
<td>3</td>
</tr>
<tr>
<td>CSD 8722</td>
<td>Foundations and Management in Dysphagia</td>
<td>3</td>
</tr>
<tr>
<td>CSD 8726</td>
<td>Management of Child Language Disorders</td>
<td>3</td>
</tr>
<tr>
<td>CSD 8727</td>
<td>Written Language Development and Disorders</td>
<td>2</td>
</tr>
<tr>
<td>CSD 8729</td>
<td>Neurocognitive Language Disorders</td>
<td>3</td>
</tr>
<tr>
<td>CSD 8824</td>
<td>Assessment and Treatment of Diverse Populations</td>
<td>2</td>
</tr>
<tr>
<td>CSD 8830</td>
<td>Seminar in CSD</td>
<td>1</td>
</tr>
<tr>
<td>HRPR 5001</td>
<td>Current and Emerging Issues in Public Health and Health Professions</td>
<td>0</td>
</tr>
</tbody>
</table>

Elective: 3

Clinical Practicum: 15-20

Total Credit Hours: 54-59

1 This common College Core course is required of all incoming graduate students in the College of Public Health. It is available completely online and designed such that students can complete the modules at their own pace over the course of their degree program.
2 Students who elect to complete a thesis should select CSD 9996 Thesis Seminar as their elective.
3 Students enroll in 15 to 20 credits of clinical practicum to complete at least 375 clock hours of a supervised clinical experience to acquire the requisite skills in the evaluation and treatment of speech, language, and swallowing disorders. Credits are earned in CSD 8147 Basic Practicum in Audiology, CSD 8187 Basic Practicum in Diagnostic Processes, CSD 8287 Basic Practicum in Therapy Processes, CSD 9187 Advanced Practicum in Voice, CSD 9287 Advanced Practicum in Fluency, CSD 9387 Advanced Field Practicum in Speech Language Pathology - Child, CSD 9487 Advanced Field Practicum in Speech Language Pathology - Adult, and CSD 9587 Advanced Practicum in Aphasia.

Proposed Progressive Coursework Outlined by Year and Term:

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSD 5521</td>
<td>Foundations in Child Language Disorders</td>
<td>3</td>
</tr>
<tr>
<td>CSD 5522</td>
<td>Foundations and Management in Phonological Disorders</td>
<td>3</td>
</tr>
<tr>
<td>CSD 5527</td>
<td>Foundations and Rehabilitation of Language and Cognitive Disorders in Aphasia</td>
<td>3</td>
</tr>
<tr>
<td>CSD 5531</td>
<td>Applications in Audiology</td>
<td>1</td>
</tr>
<tr>
<td>CSD 8187</td>
<td>Basic Practicum in Diagnostic Processes</td>
<td>2</td>
</tr>
<tr>
<td>CSD 8287</td>
<td>Basic Practicum in Therapy Processes</td>
<td>2</td>
</tr>
</tbody>
</table>
HRPR 5001  Current and Emerging Issues in Public Health and Health Professions  0

| Term Credit Hours | 12 |

Spring
CSCD 5528  Voice Disorders: Theory and Analysis  3
CSCD 8187  Basic Practicum in Diagnostic Processes  2
CSCD 8287  Basic Practicum in Therapy Processes  2
CSCD 8726  Management of Child Language Disorders  3
CSCD 8729  Neurocognitive Language Disorders  3

| Term Credit Hours | 12 |

Summer
CSCD 5525  Foundations and Management in Fluency  3
CSCD 5532  Foundations and Management in Hearing Disorders  3
CSCD 8187  Basic Practicum in Diagnostic Processes  2
CSCD 8722  Foundations and Management in Dysphagia  3
CSCD 9587  Advanced Practicum in Aphasia  2

| Term Credit Hours | 12 |

Year 2
Fall
CSCD 5524  Fndtns-Mgmnt in Motor Sp  3
CSCD 8727  Written Language Development and Disorders  2
CSCD 8830  Seminar In CSD  1
CSCD 9287  Advanced Practicum in Fluency  1
CSCD 9387  Advanced Field Practicum in Speech Language Pathology - Child  3

| Term Credit Hours | 10 |

Spring
CSCD 8824  Assessment and Treatment of Diverse Populations  2
CSCD 9187  Advanced Practicum in Voice  1
CSCD 9387  Advanced Field Practicum in Speech Language Pathology - Child  3

Elective 4  3

| Term Credit Hours | 9 |

Summer
CSCD 8147  Basic Practicum in Audiology  1
CSCD 9487  Advanced Field Practicum in Speech Language Pathology - Adult  3

| Term Credit Hours | 4 |

Total Credit Hours: 59

1 This course outline constitutes a sample. Individual student programs may vary depending on prerequisite coursework and the type and amount of clinical practicum hours.
2 Students typically enroll in CSCD 8187 and CSCD 8287 over multiple academic terms in Year 1.
3 This common College Core course is required of all incoming graduate students in the College of Public Health. It is available completely online and designed such that students can complete the modules at their own pace over the course of their degree program.
4 Students who elect to complete a thesis should select CSCD 9996 Thesis Seminar as their elective.

Standards of Scholarship: A graduate student in the M.A. program is expected to perform in accordance with the standards of scholarship of the Temple University Graduate School and of the Department of Communication Sciences and Disorders, including the following:

1. At the time of graduation, the student must have a grade point average of at least 3.0 (equivalent at Temple to the grade of “B”).
2. The student’s grades will be averaged after the student has completed 15 graduate credits. Unless her/his average is “B” or better, the student will have one additional term to achieve a total grade average of “B” or better. Any time from the end of that term forward that her/his total grade average falls below a “B,” s/he will be dropped from the program.
3. A student who receives more than two grades below “B-” or more than one grade of “F” is dismissed for failure to maintain satisfactory grades. Although grades of “C+,” “C,” and “C-” carry academic credit, receipt of such grades indicates that the student is performing at a substandard level. Additionally, ASHA hours are not accumulated in Clinical Courses (Practicum) with earned grades below a “B-.”
4. A student may not graduate without completing all coursework and thus removing any outstanding grades of “I” (incomplete).
5. An M.A. student in the program may apply no more than 6 graduate credits earned at another institution toward the degree.

Culminating Events:
Students choose between two options: completion of the comprehensive examination or preparation and defense of a master’s thesis.

Comprehensive Examination:
The purpose of the comprehensive examination is to demonstrate the application of accumulated knowledge to the basic science and clinical domains. It is typically taken in the final term of study. Details on procedures can be found in the Student Handbook, available at https://cph.temple.edu/commmsci/programs-offered/graduate/speech-language-hearing-ma.

Master’s Thesis:
The thesis option is intended to provide an opportunity for students interested in research to conduct a study of greater scope and rigor than is generally possible in the context of a one-term seminar or independent study. Students electing the thesis option enroll for up to 3 credits of CSCD 9996 Thesis Seminar, typically in the Spring of Year 2.

The thesis involves descriptive and/or experimental research and is supervised by a faculty member selected by the student. Students develop a prospectus (i.e., proposal of research to be conducted) in conjunction with their M.A. committee, which consists of the thesis advisor and two other faculty members. A final presentation is given orally to a symposium of faculty and students. The thesis document is submitted to the Graduate School in accordance with its guidelines. Additional details are found in the Student Handbook, available at https://cph.temple.edu/commmsci/programs-offered/graduate/speech-language-hearing-ma.
Contacts

Program Web Address:
https://cph.temple.edu/commsci/programs-offered/graduate/speech-language-hearing-ma

Department Information:
Dept. of Communication Sciences and Disorders
110 Weiss Hall (265-62)
1701 N. 13th Street
Philadelphia, PA 19122-6085
cph@temple.edu
215-204-7543

Submission Address for Application Materials:
https://cscds.liaisoncas.com/

Department Contacts:
Admissions:
CPH Office of Admissions
cph@temple.edu
215-204-5200

Chairperson:
Lisa Bedore, Ph.D.
lisa.bedore@temple.edu
215-204-7543

Graduate Certificate: Clinical Health Services Research

COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

About the Certificate

The Clinical Health Services Research (HSR) certificate is a 12-credit graduate certificate designed to provide a foundation for clinicians and other healthcare professionals in this multidisciplinary field that studies how social factors, financing systems, organizational structures and processes, health technologies, and personal behaviors affect access to healthcare, quality of care, and costs. Knowledge of health services research allows healthcare professionals to develop both better understandings of population-based outcomes and skills to participate in population-based research. The certificate program gives students a grounding in health services research, including study design, methods, and interpretation of results. Successful completion of the Clinical HSR certificate program will enable graduates to:

- illustrate understanding of health services research theory and concepts by comparing alternative models for population health issues;
- formulate innovative and important health service research questions informed by systematic reviews of the literature, stakeholder needs, and relevant theoretical and conceptual models;
- select appropriate study designs to address specific health services research questions;
- develop expertise in collecting primary health and healthcare data and in assembling secondary data from existing sources;
- use appropriate analytical methods to assess associations between variables; and
- apply knowledge of the structures, performance, quality, policy, and context of health and healthcare to formulate solutions for health policy problems.

Time Limit for Certificate Completion: 2 years

Campus Location: Main, with certain courses also offered at Temple University Center City (TUCC)

Full-Time/Part-Time Status: The graduate certificate may be completed on a part-time basis.

Non-Matriculated Student Policy: The certificate program is open to non-matriculated graduate students. Courses taken in the certificate program count toward the M.S. in Clinical Research and Translational Medicine if the student enters the program.

Admission Requirements and Deadlines

Application Deadline:
Fall, Spring, and Summer admissions are on a rolling basis. Interested students should contact the College of Public Health for permission to enroll in coursework.

Apply at https://sophasexpress.liaisoncas.com/.

For questions, please contact Theresa White, Senior Graduate Advisor, at theresawhite@temple.edu or 215-204-5105.

Bachelor's Degree in Discipline/Related Discipline: Applicants must hold a baccalaureate degree. Official transcripts must be submitted for all postsecondary institutions attended.

Certificate Requirements

Number of Credits Required to Complete the Certificate: 12

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td>EPBI 5201</td>
<td>Epidemiological Research Methods I</td>
<td>3</td>
</tr>
<tr>
<td>EPBI 8208</td>
<td>Data Management and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>EPBI 8301</td>
<td>Clinical Research Methods in Public Health</td>
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<tr>
<td>HIM 5106</td>
<td>Technology for Population Health</td>
<td></td>
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<tr>
<td>HPM 5122</td>
<td>Healthcare Quality and Safety</td>
<td></td>
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<tr>
<td>HPM 8008</td>
<td>Health Economics</td>
<td></td>
</tr>
<tr>
<td>HPM 8013</td>
<td>Research Methods in Health Policy</td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours 12

Contacts

Certificate Program Web Address:
https://cph.temple.edu/healthadminpolicy/programs-offered/graduate

Admissions Information:
Dept. of Health Services Administration and Policy
524 Ritter Hall Annex
1301 Cecil B. Moore Avenue
Graduate Certificate: Health Informatics

COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

About the Certificate

The Health Informatics (HI) certificate is a 12-credit graduate certificate designed to provide students with the skills and competencies needed to embark on or advance a career in health informatics. The certificate program provides hands-on skills taught by industry leaders. The program is designed to expand students’ understanding of privacy and security requirements, the role of standards and data exchange, and fundamentals associated with managing health IT. In addition, approximately 50 hours of training and assignments are conducted in an educational EHR setting, providing the student with hands-on skills. All courses are taught at the graduate level and certificate courses count toward the M.S. in Health Informatics if the student continues in the program.

Time Limit for Certificate Completion: 2 years

Campus Location: Online

Full-Time/Part-Time Status: The graduate certificate may be completed on a part-time basis.

Non-Matriculated Student Policy: The certificate program is not open to non-matriculated graduate students. Courses taken in the certificate program count toward the M.S. in Health Informatics if the student continues in the program.

Admission Requirements and Deadlines

Application Deadline:

Fall and Spring admissions are on a rolling basis. Apply at https://sophasexpress.liaisoncas.com/.

Bachelor’s Degree in Discipline/Related Discipline: Applicants must hold a baccalaureate degree, having earned a cumulative GPA of 3.0 on a 4.0 scale, from an accredited college or university. Transcripts from all postsecondary institutions attended must be uploaded at SOPHAS Express (https://sophasexpress.liaisoncas.com).

Standardized Test Scores:

TOEFL/IELTS: Required for applicants whose native language is not English.

TOEFL: 79 iBT minimum

IELTS: 6.5 minimum on the academic version

Certificate Requirements

Number of Credits Required to Complete the Certificate: 12

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIM 5101</td>
<td>Fundamentals of Health Informatics</td>
<td>3</td>
</tr>
<tr>
<td>HIM 5112</td>
<td>Health Information Systems: Design and Decision Making</td>
<td>3</td>
</tr>
<tr>
<td>HIM 5127</td>
<td>Privacy and Security: Protecting Healthcare Data</td>
<td>3</td>
</tr>
<tr>
<td>HIM 5128</td>
<td>Health Data: Standards and Interoperability</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours: 12

Contacts

Certificate Program Web Address:

https://cph.temple.edu/healthadminpolicy/programs-offered/health-informatics-certificate

Department Information:

Dept. of Health Services Administration and Policy
524 Ritter Hall Annex
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6005
hlthinfo@temple.edu
215-204-5899

Submission Address for Application Materials:

https://sophasexpress.liaisoncas.com/

Department Contacts:

Admissions:
CPH Office of Admissions
cph@temple.edu
215-204-5200

Graduate Program Director:
Thomas Martin, Ph.D.
trmartin@temple.edu
215-204-1892
Graduate Certificate: Health Outcomes and Measurement Science

COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

About the Certificate

The Health Outcomes and Measurement Science (HOMS) graduate certificate is an interdisciplinary 12-credit certificate program offered as an online program. Students are encouraged to take classes together in groups, which facilitates career networking and enhances the learning environment as colleagues and classmates collaborate with those from different disciplines and organizations. The certificate program is designed for clinical practitioners and researchers as well as industry-outcomes specialists who are interested in integrating evidence-based health outcomes into their clinical practice, work, or research, including athletic trainers, counselors, health services researchers, nurses, occupational therapists, pastoral counselors, physical therapists, physicians, psychiatrists, psychologists, recreational therapists, and social workers.

Students who complete the certificate gain an improved understanding of health models; survey methods; and the development, application, and interpretation of person-centered health outcomes within clinical and research applications to advance their practice and research. Successful completion of the HOMS graduate certificate enables graduates to:

• Describe models of health and their use as a basis for outcome measure development in health applications;
• Apply modern approaches, including mixed methods, in the development of person-centered health outcome measures; and
• Interpret and understand the psychometric properties of person-reported health outcome measures.

Time Limit for Certificate Completion: 2 years

Campus Location: Online

Full-Time/Part-Time Status: The graduate certificate may be completed on a part-time basis, but all courses should be finished within a two-year period.

Non-Matriculated Student Policy: The certificate program is open to non-matriculated graduate students.

Admission Requirements and Deadlines

Application Deadline:
Fall and Spring admissions are on a rolling basis.

The admissions process for this graduate certificate depends on the applicant's student status. If you are not currently a matriculated graduate student at Temple University, first submit the inquiry form found at https://cphadmissions.temple.edu/inquiryform. Then, complete Temple’s online graduate application (https://prod-wlssb.temple.edu/prod8/bwskalog.P_DispLoginNon).

Students who are currently matriculated as a Temple University graduate student can complete the inquiry form and provide transcripts and recommendations, but are not required to complete a graduate application.

Letters of Reference:
Number Required: 2

From Whom: Recommendations are required to be submitted on the professional Reference Report for Graduate Study form (https://www.temple.edu/grad/admissions/documents/Web_GRAD_REFERENCE_REPORT.pdf) from individuals who have observed and can evaluate your leadership competencies and abilities. Evaluators should be those whom you know in a professional capacity such as faculty member, supervisor, colleague, co-worker in another department who interacts with you in a professional capacity, or the like. At least one recommendation should be from an academic who can evaluate your ability to complete graduate coursework.

Bachelor’s Degree in Discipline/Related Discipline: Applicants must hold a baccalaureate degree. Official transcripts must be submitted for all postsecondary institutions attended.

Standardized Test Scores:
TOEFL/IELTS: Required for applicants whose native language is not English.

TOEFL: 79 iBT minimum
IELTS: 6.5 minimum on the academic version

Resume: Current CV required.

Certificate Requirements

Number of Credits Required to Complete the Certificate: 12

Required Courses:

<table>
<thead>
<tr>
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<th>Title</th>
<th>Credit Hours</th>
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<tr>
<td>HRPR 8001</td>
<td>Introduction to Health Outcomes Measurement Science</td>
<td>3</td>
</tr>
<tr>
<td>HRPR 8002</td>
<td>Qualitative Methods in Health Outcomes Measurement</td>
<td>3</td>
</tr>
<tr>
<td>HRPR 8003</td>
<td>Quantitative Methods in Health Outcomes Measurement Science</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours: 12

1 EPBI 8302 is third in the course sequence for the certificate program. HRPR 8001 is taken first, followed by HRPR 8002, EPBI 8302, and HRPR 8003.

Contacts

Certificate Program Web Address:
https://cph.temple.edu/admissions/graduate

Admissions Information:
College of Public Health Office of Admissions
1101 W. Montgomery Avenue, Suite 370
Philadelphia, PA 19122-2715

cph@temple.edu
215-204-5200
Submission Address for Application Materials:
HOMS Graduate Certificate Program
College of Public Health Office of Admissions
1101 W. Montgomery Avenue, Suite 370
Philadelphia, PA 19122-2715

Department Contacts:
Admissions:
CPH Office of Admissions
cph@temple.edu
215-204-5200

HOMS Certificate Program Co-Directors:
Carole Tucker, PT, Ph.D.
carole.tucker@temple.edu
215-204-9009

Katherine Bevans, Ph.D.
katherine.bevans@temple.edu
215-204-1229

Chairperson:
Carole Tucker, PT, Ph.D.
carole.tucker@temple.edu
215-204-9009

Graduate Certificate: Public Health Law Research

COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

About the Certificate

The field of Public Health Law Research is defined as the scientific study of the effects of laws and legal practices on health. The graduate certificate in Public Health Law Research is a 12-credit experience intended to give students a grounding in public health law with a specific focus on empirical evaluation of policies and laws. In order to advance health through policy initiatives, it is important that there be sound evidence on which to act. Students who complete the certificate program are able to demonstrate the integration of behavioral and organizational theory with a law or policy; describe the mechanism behind a law or policy; and systematically evaluate the law or policy at the level of individual provisions, rather than just a holistic view. The culminating experience for the certificate is an independent project to evaluate a law or policy of the student's choice and communicate the findings.

The transcripted post-baccalaureate certificate in Public Health Law Research is offered in a fully online format to both graduate students at Temple University and those outside Temple who are interested in the field. The certificate is a collaborative effort of the College of Public Health and the Beasley School of Law at Temple University.

Time Limit for Certificate Completion: 2 years

Campus Location: Online

Full-Time/Part-Time Status: The graduate certificate may be completed on a part-time basis.

Non-Matriculated Student Policy: The certificate program is not open to non-matriculated graduate students.

Admission Requirements and Deadlines

Application Deadline:
Fall, Spring, and Summer admissions are on a rolling basis. Interested students should contact the College of Public Health for permission to enroll in coursework.

All applicants to the Public Health Law Research certificate must apply via the Centralized Application Service for Public Health (SOPHAS). The system can be accessed at https://sophas.liaisoncas.com/.

Applicants should check their application status on the SOPHAS (https://sophas.liaisoncas.com/applicant-ux) portal often and inquire directly of SOPHAS about receipt of materials. For other questions, please contact Theresa White, Senior Graduate Advisor, at theresawhite@temple.edu or 215-204-5105.

Bachelor's Degree in Discipline/Related Discipline: Applicants must hold a baccalaureate degree.

Certificate Requirements

Number of Credits Required to Complete the Certificate: 12

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPBI 8012</td>
<td>Multivariable Biostatistics</td>
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<tr>
<td>HPM 8013</td>
<td>Research Methods in Health Policy</td>
<td>3</td>
</tr>
<tr>
<td>HPM 9995</td>
<td>Health Law Research Project</td>
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<tr>
<td>JUDO 9189</td>
<td>Public Health Law</td>
<td>3</td>
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<tr>
<td></td>
<td></td>
<td><strong>Total Credit Hours</strong> 12</td>
</tr>
</tbody>
</table>

1 For course information in the Beasley School of Law, see http://www.law.temple.edu/resources/student-services/course-registration/schedules-and-descriptions/.

Contacts

Certificate Program Web Address:
https://cph.temple.edu/healthadminpolicy/programs-offered/graduate

Admissions Information:
Dept. of Health Services Administration and Policy
Ritter Hall Annex, 9th Floor (004-09)
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6005
publichealth@temple.edu
215-204-8726

Submission Address for Application Materials:
https://sophas.liaisoncas.com/

Department Contacts:

Admissions:
CPH Office of Admissions
cph@temple.edu
215-204-5200

Theresa White
Senior Graduate Advisor
theresawhite@temple.edu
215-204-5105

Chairperson:
William Aaronson, Ph.D.
aaronson@temple.edu
215-204-8128
College of Public Health / School of Social Work

The School of Social Work is an integral part of Temple University’s College of Public Health, which is home to various professions that seek to heal and bolster human capacities. The School of Social Work fulfills its mission of building social and economic justice to improve quality of life through teaching, research, and service.

Established at Temple University more than 40 years ago, the School of Social Work prepares its graduates to tackle such diverse issues as child welfare, community capacity building, elder abuse, health services, HIV/AIDS, homelessness, hospice services, juvenile justice, mental health, organizational diversity, poverty, substance abuse, teen pregnancy, and violence against women. The School utilizes:

• education to affect social change;
• research and scholarship to advance knowledge and generate evidence-based strategies to resolve problems;
• public research to aid the dissemination of knowledge and evidence-based strategies; and
• continued responsiveness to meet the changing needs of constituents through collaborations and partnerships with communities, agencies, and organizations.

The Master of Social Work (M.S.W.) degree program is offered today with full-time, part-time, and online options. In addition, a dual-degree program lets M.S.W. students concurrently earn their Master of Public Health (M.P.H.) degree.

Programs

Degree Program and Certificate

• Social Work, M.S.W. (p. 734)
• Graduate Certificate: Military Counseling (p. 738)

Graduate Faculty

For information on Graduate Faculty in the School of Social Work, please refer to the College of Public Health’s Graduate Faculty page (http://bulletin.temple.edu/graduate/scd/cph/#graduatefacultytext).

Social Work, M.S.W.

COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

SCHOOL OF SOCIAL WORK (https://cph.temple.edu/ssa)

About the Program

The School of Social Work is dedicated to the pursuit of societal transformations that eliminate social, political, and economic injustices for poor and oppressed populations and advance the quality of life for all through:

• Education emphasizing the discovery of knowledge, use of critical inquiry, and application of professional ethics to effect social change among social workers in front-line, supervisory, managerial, and leadership positions.
• Research and scholarship that advances applied knowledge and generates evidence-based strategies to resolve problems between people and their social environments at the local, state, national, and global levels.
• Public service that aids in the dissemination of knowledge and evidence-based strategies.
• Collaborations and partnerships with communities, agencies, and organizations in response to the needs of constituents.

Flexible programming is offered for the M.S.W. and includes:

Regular Standing — Applicants with a bachelor’s degree may apply for the 60-credit M.S.W. degree, which has been accredited by the Council on Social Work Education (CSWE):

• Full-time students pursue a degree (15 credits per term) for 2 years, excluding summers. Admission for full-time study is in the Fall term only.
• Part-time students pursue their degree (6 then 9 credits per term) over a 3-year period, including summers. Admission for part-time study is in the Fall and Spring terms.

Advanced Standing — Applicants must have earned a B.S.W. degree within the last 5 years from a CSWE-accredited school of social work and be selected for advanced standing status:

• Full-time students begin in Summer I and finish in 12 months, taking 15 credits per term for two terms. Admission is in the Summer term only.
• Part-time students begin in Summer I and finish in 18 months, taking 6 or 9 credits in their first Fall, Spring, Summer, and final Fall terms. Admission is in the Summer term only.

Students who are accepted for advanced standing are awarded 25.5 credits as a result and complete 34.5 credits to earn the 60-credit M.S.W. degree accredited by CSWE.

Time Limit for Degree Completion: 5 years

Campus Location: Main (full- and part-time), Center City (part-time), Harrisburg (part-time), and online (part-time). Most courses are offered in an in-person format for campus-based students; however, to increase choice, some courses are offered only in an online format. Students based at the Center City campus take Saturday courses in the Fall and Spring; in Summer, they take weekend courses online or at Main campus. Center City and Harrisburg students have limited concentration, specialization, and elective choices.

Full-Time/Part-Time Status: Course times are structured so as to offer a broad range of flexible options for students, many of whom are employed while engaged in their program of study at Temple. Students who are employed full-time are strongly advised to pursue the part-time program.

Interdisciplinary Study: The College of Public Health offers a dual master’s degree in Social Work and Public Health. The M.S.W. can be undertaken with any of these M.P.H. programs:

• Applied Biostatistics
• Environmental Health
• Epidemiology
• Health Policy and Management
• Social and Behavioral Sciences

Interested applicants apply separately to each program. For more information, visit https://cph.temple.edu/mph/dual-degrees.
Study Abroad: Students are permitted to complete up to 6 credits in elective courses abroad. They should consult with their advisor about the timing of degree requirements.

Ranking: For 2018, according to U.S. News & World Report, Temple University's M.S.W. program ranks 59 out of 220 accredited schools of social work.

Accreditation: The M.S.W. degree program is accredited by the Council on Social Work Education (CSWE).

Areas of Specialization: Faculty are engaged in a number of research and service projects pertaining to child welfare, family and community violence, gender and sexual orientation, HIV-AIDS, homelessness, involvement of fathers in families, mental and physical health, poverty, social capital development, and substance abuse. Centers, such as the Center for Social Policy and Community Development, offer rich opportunities for students, faculty, and staff to engage in social work practice training and program evaluation.

Job Prospects: Graduates of the M.S.W. program find employment in public and private social service agencies, as well as in profit and non-profit organizations. Their work encompasses a broad range of responsibilities, including community organizing, counseling, management, program design and implementation, supervision, and training. Graduates are also employed in many different fields of practice, such as adoption support, aging, child protection, developmental disabilities, employment-based social work, HIV/AIDS, hospice care, medical social work, mental health counseling, school social work, and substance abuse.

Licensure: States vary in their requirements for a license to practice social work. Many also offer different levels of licensing. Graduates should contact their local chapter of the National Association of Social Workers (NASW) for information on the specific requirements for licensing in their state. For more information about state licensure, see https://www.aswb.org/licensees/about-licensing-and-regulation/social-work-regulation/.

Non-Matriculated Student Policy: Students must apply for the M.S.W. and be offered a non-matriculated student option. This option is for students who are ultimately seeking the M.S.W. but do not fully meet the admissions requirements.

Financing Opportunities: The School of Social Work awards some aid each year to assist meritorious applicants and continuing students in meeting the cost of their educational program. Awards include partial scholarships, government training grants, and stipends provided by local public and voluntary agencies. Awards are made on the basis of academic merit and the overall promise shown by an applicant for contributing to the School and to the profession. Additional considerations include interest in particular areas of practice for which special funding is available; service in the military, AmeriCorps, AmeriCorps VISTA, or the Peace Corps; and the School's commitment to maintaining diversity in the student body. Some awards are granted at program admission, while others are designed to support our advanced year, continuing students.

Most awards made by the School of Social Work ordinarily meet only part of the student's total educational expenses. All students are, therefore, expected to make use of available family and other resources as well as federal grant, loan, and work-study assistance to help meet the cost of their education. Temple University's Office of Student Financial Services provides assistance with the federal grant/loan/work-study application process.

Admission Requirements and Deadlines

Application Deadline:

Fall Regular Standing Admission:
- January 15 – Priority Deadline
- April 1 – Final Application Deadline

Spring Regular Standing Admission: November 1

Summer Advanced Standing Admission:
- January 15 – Priority Deadline
- April 1 – Final Application Deadline

All applicants to the M.S.W. program must apply via the Social Work Centralized Application Service (SocialWorkCAS), accessible at https://socialworkcas.liaisoncas.com/applicant-ux/.

Applicants who desire to be considered for School of Social Work scholarships must submit their application by the stated deadlines. Applications are processed as they are completed up to the deadline date. Admission to Temple's M.S.W. program is competitive, so applicants are advised to apply early and to ensure that all supporting documents are received by the SocialWorkCAS system before the deadline.

Letters of Reference:
Number Required: 3, with submission made electronically via https://socialworkcas.liaisoncas.com/applicant-ux/.

From Whom: For regular standing, letters of recommendation should be obtained from faculty and professionals familiar with the applicant's academic competence and/or professional work experience. Applicants who have graduated from college within the last five years should submit at least one reference from a professor or an official of the degree-granting institution. Those with employment experience in the social services or a related field should submit at least one reference from a supervisor or administrator at their place of employment.

If seeking advanced standing, applicants should obtain three references, one of which should be prepared by the B.S.W. Program Director, Senior Practice Seminar Course Instructor, Field Instructor, or Field Coordinator. The letter should indicate the applicant's readiness for advanced standing.

Coursework Required for Admission Consideration: Social Work education draws heavily from the rich and broad foundation provided by a liberal arts curriculum. All applicants are expected to have completed an undergraduate course of study reflecting this liberal arts foundation.

Bachelor's Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of an accredited baccalaureate degree. The minimum acceptable undergraduate GPA for regular standing applicants is 3.0 on a 4.0 scale or 3.5 in the last 2 years of study (i.e., 60 credits of the bachelor's degree).

A bachelor's degree in Social Work (B.S.W.) is not required except for advanced standing applicants. Applicants for advanced standing must have achieved an undergraduate GPA of 3.25 overall and at least 3.25 in
their junior/senior years. See http://cph.temple.edu/ssa/degrees-offered-master-social-work/msw-admissions for more detailed information.

Statement of Goals: A statement of professional plans and goals is an important component of the admissions application in Social Work. It provides an opportunity for applicants to show their motivation for pursuing graduate study in the field of Social Work, relevant personal and professional experiences, and knowledge of diversity and social justice. This essay is evaluated on the basis of the applicant's ability to reflect on and summarize significant and relevant experiences, to conceptualize and think critically, and to write proficiently. Please respond to the specific question prompts listed on SocialWorkCAS. All applicants should submit their essay electronically via https://socialworkcas.liaisoncas.com/applicant-ux/.

Standardized Test Scores:
TOEFL: 79 iBT or 550 PBT minimum

Clearances: The Social Work M.S.W. program requires students to complete clinical/field education experiences at facilities both on and off Temple University's campuses. These placements require criminal background checks, Act 33/34 clearances, and perhaps a drug screen. Placements may also require the student to maintain personal health insurance. The results of these requirements may limit and potentially eliminate placement options for the student, thus resulting in her/his inability to meet graduation requirements. Additionally, conviction of a misdemeanor, felony, or felonious or illegal act may prevent the student from becoming credentialed and/or licensed to practice social work.

Resume: Current professional resume required.

Advanced Standing: Applicants from a B.S.W. program accredited by the Council on Social Work Education (CSWE) may be eligible for advanced standing. This enables students, after a required summer "bridge" course that begins in June, to start the second year of study at the advanced curriculum level in their area of specialization. To be considered for advanced standing, students must, in addition to meeting minimum requirements, have:

• earned the B.S.W. no more than five years prior to applying;
• achieved an overall undergraduate GPA of 3.25, in addition to a 3.25 GPA in their junior and senior years; and
• received no more than one "C" grade in Social Work courses; that is, all other Social Work grades must be "B" or better.

Applicants for advanced standing must also submit:

• Three references, preferably one from the Senior Practice Seminar Course Instructor, one from the applicant's Field Instructor for the senior practicum, and the third from the B.S.W. Program Director or another academic source.
• A copy of the Field Instructor's evaluation form from the undergraduate placement.

Students who have completed their foundation year at another graduate school of social work may also be eligible to transfer in their foundation year credits if they meet the criteria.

Program Requirements

General Program Requirements: 
Number of Credits Required Beyond the Baccalaureate: 60, including 30 in foundation coursework and 30 in advanced-level study

Required Courses:
Students are exposed to multiple methods of intervention through foundation coursework. The courses are generalist in nature, allowing students to become familiar with the breadth of social work. Courses cover content in human behavior and the social environment, research, social welfare policy, and social work practice.

Students then select from a range of advanced-level coursework that allows them to examine in greater depth a practice modality (or concentration) and a field of practice (or specialization). Each concentration requires two practice courses, an advanced field placement, and one research course. Two concentrations are offered:

• Clinical Practice
• Macro Practice

Students also take coursework relevant to their chosen specialization. Each specialization requires a policy course and a human behavior and social environment course. Two major areas of specialization are currently offered because they are of critical importance in Social Work practice:

• Children and Families
• Health and Mental Health

Students may also propose an individualized option for a specialization by working with their advisor to design a coherent plan of study that includes the two types of advanced courses required for a specialization. In some cases, students may need to complete courses outside of the discipline of Social Work. As part of an individualized specialization plan, former students have taken courses in Criminal Justice, Geography and Urban Studies, and Gender, Sexuality, and Women's Studies. Not all courses are available in an online format.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRPR 5001</td>
<td>Current and Emerging Issues in Public Health and Health Professions 1</td>
<td>0</td>
</tr>
<tr>
<td>SSWG 5001</td>
<td>HBSE: Individuals and Families</td>
<td>3</td>
</tr>
<tr>
<td>SSWG 5002</td>
<td>HBSE: Groups, Communities and Organizations</td>
<td>3</td>
</tr>
<tr>
<td>SSWG 5003</td>
<td>Foundations in Social Work Research</td>
<td>3</td>
</tr>
<tr>
<td>SSWG 5005</td>
<td>Social Welfare Policies and Services I</td>
<td>3</td>
</tr>
<tr>
<td>SSWG 5006</td>
<td>Social Welfare Policies and Services II</td>
<td>3</td>
</tr>
<tr>
<td>SSWG 5007</td>
<td>Social Justice: Foundation for Transformative Social Work</td>
<td>3</td>
</tr>
<tr>
<td>SSWG 5107</td>
<td>Practice of Social Service Delivery I</td>
<td>3</td>
</tr>
<tr>
<td>SSWG 5108</td>
<td>Practice of Social Service Delivery II</td>
<td>3</td>
</tr>
<tr>
<td>SSWG 5187</td>
<td>Foundation Field Practicum I</td>
<td>3</td>
</tr>
<tr>
<td>SSWG 5188</td>
<td>Foundation Field Practicum II</td>
<td>3</td>
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Advanced Courses 2

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>SSWG 8504</td>
<td>Integrative Seminar (Specialization Practice course)</td>
</tr>
</tbody>
</table>

Select one pair of the following Specialization courses: 6

Health/Mental Health Specialization

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>SSWG 8303</td>
<td>Dynamics of Health, Health Care, and Health Systems</td>
</tr>
<tr>
<td>SSWG 8307</td>
<td>Health/Mental Health Policy</td>
</tr>
</tbody>
</table>
Children and Family Specialization

SSWG 8403  Children and Families in the Social Environment
SSWG 8407  Policy on Families and Children

Select one set of the following Concentration courses: 9

Clinical Practice Concentration, which requires these three 3-credit courses:

SSWG 8101  Clinical Practice with Individuals, Families, and Groups I
SSWG 8102  Clinical Practice with Individuals, Families, and Groups II
SSWG 8205  Evaluation of Clinical Practice

OR

Macro Concentration, which requires these two 3-credit courses and a choice of three 1-credit practice courses:

SSWG 8107  Macro Practice in Organizational, Community and Policy Arenas
SSWG 8207  Social Work Research: Communities and Policy Arenas and Management/Planning

Choose three of the following 1-credit Macro practice courses:

SSWG 8108  Thinking Economically
SSWG 8109  Social Innovation and Entrepreneurship
SSWG 8111  Legislative Advocacy
SSWG 8112  Coalitions and Partnerships
SSWG 8113  Resource and Grant Development for Human Services
SSWG 8114  Supervision, Staff Management, and Staff Development in Human Service Organizations
SSWG 8115  Leadership in Human Service and Social Change Organizations
SSWG 8116  Grassroots Mobilization: In the U.S. and Internationally

Electives 6

Field Practica

SSWG 8187  Advanced Field Practicum I 3
SSWG 8188  Advanced Field Practicum II 3

Total Credit Hours 60

1  This common College Core course is required of all incoming graduate students in the College of Public Health. It is available completely online and designed such that students can complete the modules at their own pace over the course of their degree program.

2  Unless transfer credits fulfill them, 30 credits of advanced-level courses are required. A portion of these 30 credits are earned in the advanced field practicum experiences described under "Internship" below.

Internship: Two internships are required in the form of a field practicum, which is an essential part of Social Work studies and is deliberately linked in an integral way with classroom learning. The practicum occurs concurrently with Social Work practice courses or can be taken as a block placement in the Summer sessions. (At this time, block placements are available only to campus-based students, not online students.) In order to ensure a quality learning experience for students, the Office of Field Education is responsible for arranging and overseeing field practica. Students employed in social service settings may undertake their practica at their place of employment, but field placement activities must be substantially different than job duties. Because of accreditation and M.S.W. curriculum requirements, students must have appropriate learning experiences and supervision; therefore, they should plan on allocating at least one full day during the regular work week to the practica.

The first field practicum, taken as part of the foundation curriculum, focuses on developing proficiency in generalist practice/basic Social Work skills. This includes learning to engage and assess a range of clients, including individuals, families, groups, organizations, and communities. Students learn to identify issues, needs, resources, and strengths. They also acquire skills in planning, communication, supervision, and consultation as well as intervention, cultural competence, evidence-based practice, and evaluation. This two-term practicum requires a minimum of 450 hours (usually 2.5 days per week).

With the second field practicum, taken as part of the advanced curriculum, students develop expertise in their chosen specialization and concentration. This practicum allows for in-depth development of skills and application of theory and concepts, exploration of ethical challenges, and continued cultural competency. This two-term practicum requires a minimum of 600 hours (usually three days per week).

Contacts

Program Web Address:
https://cph.temple.edu/ssa/degrees-offered/master-social-work

School Information:

School of Social Work
Ritter Hall Annex, 5th Floor
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6005
kgarg@temple.edu
215-204-8623

Submission Address for Application Materials:
https://socialworkcas.liaisoncas.com/applicant-ux/

Department Contacts:

Recruitment and Admissions:
CPH Office of Admissions
cph@temple.edu
215-204-5200

Field Education Coordinator:
Valarie Clemmons, M.S.W.
v.clemmons@temple.edu
215-204-1222

M.S.W. Program Director:
Karin Eyrich-Garg, Ph.D.
Associate Professor
kgarg@temple.edu
215-204-1217

Coordinator of Online M.S.W. Program:
Laurie Friedman, Ph.D.
Assistant Professor of Instruction
lauriefr@temple.edu
215-204-8779
Graduate Certificate: Military Counseling

COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

SCHOOL OF SOCIAL WORK (https://cph.temple.edu/ssa)

About the Certificate
The post-master's certificate in Military Counseling is designed to help practitioners meet the public health challenge that exists as a result of U.S. service members returning to their communities and facing a number of issues following deployment, such as the effects of trauma, post-traumatic stress disorder (PTSD) and traumatic brain injury (TBI), family relationship strain, substance abuse, mental health issues, and readjustment difficulties. The certificate allows practitioners to improve their clinical versatility and skills by providing students with the theory, skills, and knowledge necessary for clinical practice with military service members, veterans, and families. Clinical practice with the military, not unlike other facets of clinical practice, must keep in mind the unique culture of the individual within the context of their unique environment and history.

Learning modules for the certificate program include military culture, the signature (invisible) wounds of contemporary conflicts, the military family, military children, female warriors and veterans, military health care, and contemporary community response. Students learn to:

- Describe military culture, including guard and reserve branches of the military;
- Enumerate issues unique to the military family, military health, and mental health care;
- Refine critical thinking about the interface among military culture, military policy, developmental issues, human biology/neuroscience, and social work and human service practice at the micro and macro levels so students can analyze the interacting aspects of a practice issue in order to consider them in making practice decisions;
- Distinguish among sources of knowledge to synthesize and apply appropriate evidence needed to do an assessment, create an intervention plan, design a program/delivery system, or develop policy for various military subpopulations;
- Develop skills needed to provide prevention, treatment, and rehabilitative services to service members, veterans, their families, and their communities;
- Develop specialized advanced clinical practice skills applicable to individuals, families, and groups within the military population; and
- Identify ways to develop and implement programs, policies, and procedures to improve the quality of life for service members, veterans, their families, and their communities.

Time Limit for Certificate Completion: 2 years

Campus Location: Online

Full-Time/Part-Time Status: The graduate certificate may be completed on a part-time basis.

Job Prospects: The certificate program develops in practitioners, such as social workers, counselors, pastoral counselors, psychiatrists, and psychologists, a practice specialization with military populations within U.S. Department of Defense (DOD) and U.S. Department of Veterans Affairs (VA) settings and/or the larger community. Graduates attain the knowledge and skills necessary to practice with all branches of armed forces at the DOD and with veterans of all eras and their families in VA and non-VA settings.

Non-Matriculated Student Policy: The certificate program is not open to non-matriculated graduate students.

Admission Requirements and Deadlines
Application Deadline:
Fall and Spring admissions are on a rolling basis. Interested students need to apply for admission to the certificate program. To submit an application, forward a statement of interest, three letters of reference, and graduate transcript(s) to the School of Social Work.

Master's Degree in Discipline/Related Discipline: Applicants must hold a master's or doctoral degree from an accredited university in a related field of study, including but not limited to social work, counseling, pastoral counseling, psychiatry, or psychology.

Bachelor's Degree in Discipline/Related Discipline: Applicants must hold a baccalaureate degree.

Certificate Requirements
Number of Credits or CEUs Required to Complete the Certificate: 12 credits or 140 CEUs

Required Courses in Sequence:

| Code    | Title                                                                 | Credit Hours |
|---------|                                                                      |--------------|
| SSWG 8503 | Military Culture: The Service Member, Veteran and Family in the Social Environment | 3            |
| or SWMC 0003 (35 CEUs)  |                                                                      |              |
| SSWG 8507 | Military Health Care, Policy and Community Response                   | 3            |
| or SWMC 0007  |                                                                      |              |
| Elective selected from these courses: |                                                                      | 3            |
| SSWG 8811 | Alcohol and Substance Abuse                                          |              |
| or SWMC 0C  |                                                                      |              |
| SSWG 8814 | Loss and Grief                                                       |              |
| or SWMC 0014 (35 CEUs)  |                                                                      |              |
| SSWG 8824 | Assessment and the DSM                                               |              |
| or SWMC 0C  |                                                                      |              |
| SSWG 9817 | Clinical Military Practice and the Invisible Wounds of War           | 3            |
| or SWMC 0017 (35 CEUs)  |                                                                      |              |

Total Credit Hours: 12
Courses may be taken for graduate credit or for continuing education (non-credit) units. Before enrolling in their first course, students must decide if they are taking coursework for credit or non-credit. They are then required to complete all coursework similarly for credit or non-credit; switching from one option to the other is not permitted. Registration for credit-bearing courses is managed through Banner. All courses earn 3 credits. Registration for non-credit courses is managed through the Destiny One platform. Each course affords 35 CEUs (non-credit) for licensed social workers (LSW, LCSW, LCSW-C) or licensed professional counselors (LPC). CEUs earned in Temple University's Military Counseling certificate program can also be used toward the Military Service Members, Veterans, and Their Families — Clinical Social Worker (MVF-CSW) credential offered by the National Association of Social Workers. While CEU certificates are issued at the conclusion of each course, a separate certificate is issued upon completion of the certificate program.

1 M.S.W. student can take SSWG 8503 and apply the credits as a human behavior and social environment (HBSE) specialization requirement or as an elective.

2 M.S.W. students can take SSWG 8507 and apply the credits as a policy specialization requirement or elective.

3 M.S.W. students can only take SSWG 9817 after completing the M.S.W. program and applying to the certificate program.

Contacts

Certificate Program Web Address:
https://cph.temple.edu/continuing-education-0

Department Information:

School of Social Work
Ritter Hall Annex, 5th Floor
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6005
ssa.admit@temple.edu
215-204-8623

Mailing Address for Application Materials:

Office of Admissions/Student Services
School of Social Work
1301 Cecil B. Moore Avenue, 521 Ritter Hall Annex (004-00)
Philadelphia, PA 19122-6005

Department Contacts:

Admissions:
Erin Brosious
Academic Coordinator
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215-204-1962

Advisor:
James Corbin
james.corbin@temple.edu
717-232-6400

Program Director:
Karin Eyrich-Garg, Ph.D.
Associate Professor
kgarg@temple.edu
College of Science and Technology

With more than 4,000 students, the College of Science and Technology (CST) is one of Temple University’s fastest growing schools. Students work side-by-side with experienced faculty researchers in the laboratory, field, and classroom. Since 2007, external funding for advanced research has more than doubled, creating new opportunities for CST’s more than 200 world-class faculty members. Excellence begins with faculty members who inspire and challenge every student.

CST’s efforts to advance the quality of research, education, and engagement with the world are greatly enhanced by its state-of-the-art Science Education and Research Center (SERC). As of Fall 2014, SERC is home to advanced laboratories and classrooms designed to attract talented students and scholars and foster interdisciplinary research. It is one of the most advanced facilities of its kind on the East Coast.

A cornerstone of CST’s graduate programs is research with a focus on advancing knowledge and finding solutions to today’s toughest challenges. This real-world, hands-on approach is ideal for preparing students for careers in academia and industry — or as entrepreneurs in the computer, science, and technological fields. Students work closely with world-class researchers to understand the science, hone their investigation skills, and ask pertinent and important questions. Professors create an environment that encourages inquiry and rewards hard work.

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Graduate Faculty

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Jocelyn Behm, Assistant Professor, Department of Biology, College of Science and Technology; Ph.D., University of Wisconsin-Madison.

Richard Beigel, Professor, Department of Computer and Information Sciences, College of Science and Technology; Ph.D., Stanford University.

Shiferaw S. Berhanu, Professor, Department of Mathematics, College of Science and Technology; Ph.D., Rutgers University.

Eric U. Borguet, Professor, Department of Chemistry, College of Science and Technology; Ph.D., University of Pennsylvania.

Ilya V. Buynevich, Associate Professor, Department of Earth and Environmental Science, College of Science and Technology; Ph.D., Boston University.

Vincenzo Carnevale, Assistant Professor (Research), Department of Biology, College of Science and Technology; Ph.D., International School for Advanced Studies, Trieste.

Steven M. Chemtob, Assistant Professor, Department of Earth and Environmental Science, College of Science and Technology; Ph.D., California Institute of Technology.

Ke Chen, Associate Professor (Research), Department of Physics, College of Science and Technology; Ph.D., Chinese Academy of Sciences.

Martha Constantinou, Assistant Professor, Department of Physics, College of Science and Technology; Ph.D., University of Cyprus.

Erik Cordes, Associate Professor, Department of Biology, College of Science and Technology; Ph.D., The Pennsylvania State University.

Hai-Lung Dai, Professor, Department of Chemistry, College of Science and Technology; Ph.D., University of California Berkeley.

Boris A. Datkovsky, Professor, Department of Mathematics, College of Science and Technology; Ph.D., Harvard University.

Alexandra Krull Davatzes, Associate Professor, Department of Earth and Environmental Science, College of Science and Technology; Ph.D., Stanford University.

Nicholas Davatzes, Associate Professor, Department of Earth and Environmental Science, College of Science and Technology; Ph.D., Stanford University.
Graham Dobereiner, Assistant Professor, Department of Chemistry, College of Science and Technology; Ph.D., Yale University.

Vasily Dolgushev, Associate Professor, Department of Mathematics, College of Science and Technology; Ph.D., Massachusetts Institute of Technology.

Eduard Dragut, Assistant Professor, Department of Computer and Information Sciences, College of Science and Technology; Ph.D., University of Illinois at Chicago.

Xiaojiang Du, Associate Professor, Department of Computer and Information Sciences, College of Science and Technology; Ph.D., University of Maryland College Park.

Ananias A. Escalante, Professor, Department of Biology, College of Science and Technology; Ph.D., University of California Irvine.

Mark A. Feitelson, Professor, Department of Biology, College of Science and Technology; Ph.D., University of California Los Angeles.

Amy Freestone, Associate Professor, Department of Biology, College of Science and Technology; Ph.D., University of California Davis.

David Futer, Associate Professor, Department of Mathematics, College of Science and Technology; Ph.D., Stanford University.

Edward T. Gawlinski, Associate Professor, Department of Physics, College of Science and Technology; Ph.D., Boston University.

Antonio Giordano, Professor, Department of Biology, College of Science and Technology; Ph.D., University of Trieste.

Yury Grabovsky, Professor, Department of Mathematics, College of Science and Technology; Ph.D., New York University.

David E. Grandstaff, Professor, Department of Earth and Environmental Science, College of Science and Technology; Ph.D., Princeton University.

Alexander Gray, Assistant Professor, Department of Physics, College of Science and Technology; Ph.D., Lawrence Berkeley National Laboratory and University of California, Davis.

Yuhong Guo, Associate Professor, Department of Computer and Information Sciences, College of Science and Technology; Ph.D., University of Alberta.

Cristian E. Gutiérrez, Professor, Department of Mathematics, College of Science and Technology; Ph.D., University of Buenos Aires.

Raymond Habas, Professor, Department of Biology, College of Science and Technology; Ph.D., State University of New York Stony Brook.

Xubin He, Professor, Department of Computer and Information Sciences, College of Science and Technology; Ph.D., University of Rhode Island.

Stephen Blair Hedges, Professor, Department of Biology, College of Science and Technology; Ph.D., University of Maryland.

Matthew Richard Helmus, Assistant Professor, Department of Biology, College of Science and Technology; Ph.D., University of Wisconsin-Madison.

Emanuel B. Hey, Professor, Department of Biology, College of Science and Technology; Ph.D., State University of New York Stony Brook.

S. Tonia Hsieh, Assistant Professor, Department of Biology, College of Science and Technology; Ph.D., Harvard University.

Maria Iavarone, Associate Professor, Department of Physics, College of Science and Technology; Ph.D., University of Napoli Federico II.

Mihaela Ignatova, Assistant Professor, Department of Mathematics, College of Science and Technology; Ph.D., University of Southern California.

Susan A. Jansen-Varnum, Professor, Department of Chemistry, College of Science and Technology; Ph.D., University of Missouri-St. Louis.

Bo Ji, Assistant Professor, Department of Computer and Information Sciences, College of Science and Technology; Ph.D., The Ohio State University.

Krishna Kant, Professor, Department of Computer and Information Sciences, College of Science and Technology; Ph.D., University of Texas at Dallas.

Bojeong Kim, Assistant Professor, Department of Earth and Environmental Science, College of Science and Technology; Ph.D., Cornell University.

Isaac Klapper, Professor, Department of Mathematics, College of Science and Technology; Ph.D., New York University Courant Institute of Mathematical Sciences.

Michael L. Klein, Professor, Department of Chemistry, College of Science and Technology; Ph.D., University of Bristol.

James F. Korsh, Professor, Department of Computer and Information Sciences, College of Science and Technology; Ph.D., University of Pennsylvania.

Rob J. Kulathinal, Assistant Professor, Department of Biology, College of Science and Technology; Ph.D., McMaster University.

Sudhir Kumar, Professor, Department of Biology, College of Science and Technology; Ph.D., The Pennsylvania State University.

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Paul S. LaFollette Jr., Associate Professor, Department of Computer and Information Sciences, College of Science and Technology; M.D., Temple University.

Longin Jan Latecki, Professor, Department of Computer and Information Sciences, College of Science and Technology; Ph.D., University of Hamburg.

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Ronald M. Levy, Professor, Department of Chemistry, College of Science and Technology; Ph.D., Harvard University.

David A. Liberles, Associate Professor, Department of Biology, College of Science and Technology; Ph.D., California Institute of Technology.
Chyanlong Lin, Associate Professor, Department of Physics, College of Science and Technology; Ph.D., Temple University.

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A. Marjatta Lyra, Professor, Department of Physics, College of Science and Technology; Ph.D., University of Stockholm.

Carol M. Manhart, Assistant Professor, Department of Chemistry, College of Science and Technology; Ph.D., University of Colorado Boulder.

C. Jeffrey Martoff, Professor, Department of Physics, College of Science and Technology; Ph.D., University of California Berkeley.

Spiridoula Matsika, Professor, Department of Chemistry, College of Science and Technology; Ph.D., The Ohio State University.

Gerardo A. Mendoza, Professor, Department of Mathematics, College of Science and Technology; Ph.D., Massachusetts Institute of Technology.

Andreas Metz, Associate Professor, Department of Physics, College of Science and Technology; Ph.D., Institut Für Kernphysik Universität Mainz.

Zein-Eddine Meziani, Professor, Department of Physics, College of Science and Technology; Ph.D., Université de Paris XI.

Irina Mitrea, Professor, Department of Mathematics, College of Science and Technology; Ph.D., University of Minnesota.

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Atsuhiro Muto, Assistant Professor, Department of Earth and Environmental Science, College of Science and Technology; Ph.D., University of Colorado.

James Napolitano, Professor, Department of Physics, College of Science and Technology; Ph.D., Stanford University.

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Zoran Obradovic, Professor, Department of Computer and Information Sciences, College of Science and Technology; Ph.D., The Pennsylvania State University.

Karen B. Palter, Associate Professor, Department of Biology, College of Science and Technology; Ph.D., Princeton University.

Susan Patterson, Associate Professor, Department of Biology, College of Science and Technology; Ph.D., University of Washington.

Jamie Payton, Associate Professor, Department of Computer and Information Sciences, College of Science and Technology; Ph.D., University of Virginia.

John P. Perdew, Professor, Department of Physics, College of Science and Technology; Ph.D., University of Pennsylvania.

Sergei L. Kosakovskiy Perdew, Professor, Department of Biology, College of Science and Technology; Ph.D., Harvard University.

Sean Gillian Queisser, Associate Professor, Department of Mathematics, College of Science and Technology; Ph.D., Ruprecht-Karls University of Heidelberg.

Sujith Ravi, Assistant Professor, Department of Earth and Environmental Science, College of Science and Technology; Ph.D., University of Maryland College Park.

Brian Rider, Professor, Department of Mathematics, College of Science and Technology; Ph.D., New York University Courant Institute of Mathematical Sciences.

Peter S. Riseborough, Professor, Department of Physics, College of Science and Technology; Ph.D., Imperial College London.

Igor Rivin, Professor, Department of Mathematics, College of Science and Technology; Ph.D., Princeton University.

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Christian E. Schafmeister, Professor, Department of Chemistry, College of Science and Technology; Ph.D., University of California San Francisco.

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Sarah Elizabeth Wengreniuk, Assistant Professor, Department of Chemistry, College of Science and Technology; Ph.D., Duke University.

Katherine A. Willetts, Associate Professor, Department of Chemistry, College of Science and Technology; Ph.D., Stanford University.

Jie Wu, Professor, Department of Computer and Information Sciences, College of Science and Technology; Ph.D., Florida Atlantic University.

Xifan Wu, Assistant Professor, Department of Physics, College of Science and Technology; Ph.D., Rutgers University.

Stephanie L. Wunder, Professor, Department of Chemistry, College of Science and Technology; Ph.D., University of Massachusetts.

Xiaoxing Xi, Professor, Department of Physics, College of Science and Technology; Ph.D., Peking University and Institute of Physics.

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Wei-Shih Yang, Professor, Department of Mathematics, College of Science and Technology; Ph.D., Cornell University.

Weidong Yang, Professor, Department of Biology, College of Science and Technology; Ph.D., Fudan University.

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Michael J. Zdilla, Associate Professor, Department of Chemistry, College of Science and Technology; Ph.D., Princeton University.

Kai Zhang, Associate Professor, Department of Computer and Information Sciences, College of Science and Technology; Ph.D., Hong Kong University of Science and Technology.

Bioinformatics, P.S.M.

COLLEGE OF SCIENCE AND TECHNOLOGY (https://cst.temple.edu)

Learn more about the Professional Science Master's in Bioinformatics (https://www.temple.edu/academics/degree-programs/bioinformatics-psm-st-binf-psm).
About the Program

Bioinformatics is the science that happens when computers are joined with the latest discoveries in genomics, biochemistry, and biophysics. It is a rapidly growing field that brings together elements of biology, chemistry, computer science, physics, and statistics. The Bioinformatics degree at Temple University, a leader in the field, is a two-year Professional Science Master's (P.S.M.) degree that features:

- an interdisciplinary approach involving scientists from across Temple University;
- classes taught by esteemed tenure and tenure-track faculty as well as by our industry and government partners;
- hands-on training in professional and management skills;
- partnerships with industry and government leaders, including a diverse and active External Advisory Board;
- access to real-world independent research projects; and
- an applied focus on responsibility and ethics in research and policy.

Time Limit for Degree Completion: 2 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full-or part-time basis. Most of the classes are offered in the evenings or on weekends to enable full-time working professionals to be enrolled in the program. International students are required to register as full-time students.

Interdisciplinary Study: Students in the Temple University Bioinformatics master's degree program benefit from an advanced curriculum developed by leading Temple faculty in the Departments of Biology, Chemistry, and Computer and Information Sciences. The program has been designed to provide students with extensive skills in computer programming as well as deep knowledge in genomics and structural biology. All three areas are required in this challenging and exciting field. Because the degree is a Professional Science Master's, the program also offers:

- professional skills through courses in professional development;
- a research internship in a biotech company or other research center; and
- connections to key employers in the Philadelphia area.

Accreditation: Temple University is fully accredited by the Middle States Commission on Higher Education.

Areas of Specialization: The degree program designed by some of the top scientists in the areas of genomics, evolutionary medicine, and structural bioinformatics allows students to specialize in Genetics/Genomics, Structural Bioinformatics, or Computational Bioinformatics as part of the capstone research and choice of electives. Students are trained to analyze genomic and proteomic data generated from large-scale sequencing and related efforts that form the foundation of personalized medicine.

Job Prospects: Official job placement is not offered, but Bioinformatics is an area of rapid job growth and has become an essential part of healthcare research and the biotechnology and pharmaceutical industries. Graduates of P.S.M. programs are in high demand, which underscores the P.S.M. as an attractive career path for those who do not wish to become academic researchers or pursue a doctorate.

Non-Matriculated Student Policy: Non-matriculated students may enroll in a total of three courses (9 credits) with permission of the instructor and the Biology Department.

Financing Opportunities: Financial assistance in the form of Research or Teaching Assistantships is not offered at this time.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1; December 15 international

Applications are processed on a continual basis. Ordinarily, the applicant is informed of an admissions decision within four to six weeks of receipt of all supporting application documents. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 3

From Whom: Letters should be obtained from college/university faculty or faculty who are familiar with the applicant's competency. If the applicant has an established career in a related field, the applicant's immediate supervisor should provide one of the letters.

Coursework Required for Admission Consideration: Applicants should have a strong background in one or more STEM fields: Science, Technology, Engineering, and Mathematics.

Bachelor's Degree in Discipline/Related Discipline: The Bioinformatics P.S.M. program has been designed for recent graduates and professionals who have a bachelor's degree or equivalent in a STEM field.

Statement of Goals: In approximately 500 to 1,000 words, specify your interest in the Bioinformatics P.S.M. program, your career goals, and your academic and professional achievements.

Standardized Test Scores:

GRE: Required. A combined minimum score of 305 on the quantitative and verbal reasoning sections of the new test is expected.

TOEFL: 90 iBT or 575 PBT minimum

Interview: An in-person or SKYPE interview is required.

Transfer Credit: Graduate credits from an accredited institution may be transferred into the Bioinformatics P.S.M. program. The credits must be equivalent to coursework offered by the Biology Department at Temple University. A grade of “B” or better must have been earned for the credits to transfer. The P.S.M. in Bioinformatics Steering Committee makes recommendations to the Department Chair for transferring credit on an individual basis. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:
### Core Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>BIOL 5312</td>
<td>Biostatistics</td>
<td>3</td>
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<tr>
<td>BIOL 5403</td>
<td>Genomics</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 5411</td>
<td>Structural Bioinformatics I</td>
<td>3</td>
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<tr>
<td>BIOL 5506</td>
<td>Professional Development Seminar for PSM in Biotechnology</td>
<td>1</td>
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<td>BIOL 5509</td>
<td>Computational Genomics</td>
<td>3</td>
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<td>BIOL 5511</td>
<td>Ethics in Bioinformatics</td>
<td>2</td>
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<tr>
<td>BIOL 9995</td>
<td>Capstone Project</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 5412</td>
<td>Structural Bioinformatics II</td>
<td>3</td>
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### Electives

<table>
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<tr>
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<tbody>
<tr>
<td>BIOL 3101 Evolution</td>
<td></td>
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<tr>
<td>BIOL 3211 Human Evolution</td>
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<tr>
<td>BIOL 5225 Evolutionary Genetics Genomics</td>
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<tr>
<td>BIOL 5479 Biotechnology</td>
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<tr>
<td>BIOL 5505 Ethics Regulation and Policy in Biotechnology</td>
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### Genetic/Genomics

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<tr>
<td>BIOL 3101</td>
<td>Evolution</td>
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<tr>
<td>BIOL 3211</td>
<td>Human Evolution</td>
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<td>BIOL 5225</td>
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<td>BIOL 5403</td>
<td>Biotechnology</td>
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</tr>
<tr>
<td>BIOL 5411</td>
<td>Structural Bioinformatics I</td>
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### Structural Bioinformatics

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<tr>
<td>CHEM 3405</td>
<td>Physical Chemistry of Biomolecules</td>
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<td>CHEM 5301</td>
<td>Quantum Chemistry</td>
<td></td>
</tr>
<tr>
<td>CHEM 5302</td>
<td>Statistical Thermodynamics</td>
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<tr>
<td>CHEM 8302</td>
<td>Computational Chemistry</td>
<td></td>
</tr>
<tr>
<td>PS 8128</td>
<td>Principles in Drug Discovery</td>
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### Computational Bioinformatics

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<tbody>
<tr>
<td>CIS 5105</td>
<td>IT Process Management</td>
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<tr>
<td>CIS 5106</td>
<td>System Development Processes</td>
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<td>CIS 5107</td>
<td>Comp Systems Security&amp;Privacy</td>
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<tr>
<td>CIS 5108</td>
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<td>CIS 9669</td>
<td>Distributed and Parallel Computer Systems</td>
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</table>

### Total Credit Hours: 30

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1. BIOL 9995 is taken for a total of three credits over two terms, as shown in the Plan of Study Grid below.

2. Students choose elective courses within any one of the three departmental foundations for the program, i.e., Biology, Chemistry, or Computer and Information Sciences.

### Plan of Study Grid

#### Year 1

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>Fall</td>
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<tr>
<td>BIOL 5403</td>
<td>Genomics</td>
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<tr>
<td>BIOL 5411</td>
<td>Structural Bioinformatics I</td>
</tr>
<tr>
<td>CIS 5015</td>
<td>Scripting for Sciences and Business</td>
</tr>
<tr>
<td></td>
<td>Term Credit Hours</td>
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<tr>
<td>Spring</td>
<td></td>
</tr>
<tr>
<td>BIOL 5509</td>
<td>Computational Genomics</td>
</tr>
<tr>
<td>CHEM 5412</td>
<td>Structural Bioinformatics II</td>
</tr>
<tr>
<td>Elective</td>
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<td></td>
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### Year 2

#### Fall

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<tr>
<td>BIOL 5312 Biostatistics</td>
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<tr>
<td>BIOL 5506 Professional Development Seminar for PSM in Biotechnology</td>
</tr>
<tr>
<td>BIOL 5511 Ethics in Bioinformatics</td>
</tr>
<tr>
<td>BIOL 9995 Capstone Project</td>
</tr>
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<tr>
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#### Spring

<table>
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<th>Credit Hours</th>
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<tr>
<td>BIOL 9995 Capstone Project</td>
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<td>Elective</td>
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<table>
<thead>
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<th>Term Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>5</td>
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</tbody>
</table>

### Total Credit Hours: 30

### Additional Requirements:

All graduate-level courses must be passed with a "B-" or better. Attendance at scheduled departmental colloquia is required.

### Culminating Events:

**Capstone Project:**

BIOL 9995 Capstone Project constitutes a culminating event of the Bioinformatics P.S.M. and requires the submission of a written project and oral presentation of the results. Capstone research may be completed in any laboratory at Temple University at the invitation of the Principal Investigator (PI) or through an internship/co-op/full-time job in the field of Bioinformatics in industry, the healthcare system, or a government agency. Since all P.S.M. in Bioinformatics classes are offered in the evening, students can avail themselves of these opportunities during the day. The process of locating internships is facilitated by the P.S.M. in Bioinformatics program based on the specific research and career interests of the individual student.

### Contacts

**Program Web Address:**

http://bioinformatics.cst.temple.edu/

**Department Information:**

Dept. of Biology
255 Biology-Life Sciences Building
1900 N. 12th Street
Philadelphia, PA 19122-6078
hey@temple.edu
215-204-8854

**Submission Address for Application Materials:**

https://apply.temple.edu/CST/

**Department Contacts:**

Program Co-Directors:
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Ronald Levy, Ph.D.
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Bioinformatics, Ph.D.

COLLEGE OF SCIENCE AND TECHNOLOGY (https://cst.temple.edu)

Learn more about the Doctor of Philosophy in Bioinformatics (https://www.temple.edu/academics/degree-programs/bioinformatics-phd-st-binf-phd).

About the Program

Bioinformatics is a field of study that lies primarily at the intersection of the biological and computational sciences and includes significant elements of biochemistry, mathematics, and statistics. The shared theme of this broad discipline is the application of sophisticated computing technologies to address questions on typically massive amounts of biological data.

The Ph.D. in Bioinformatics offers students rigorous advanced training in this expanding field. Broad preparation is offered in major research areas in bioinformatics through formal courses in core subject areas. Students are prepared for careers in industry, government, and academia.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: Full-time study is required.

Interdisciplinary Study: The program itself is explicitly interdisciplinary, as students are expected to develop specialized knowledge in one or more areas of the life sciences, as well as develop expertise in computational approaches to analyzing large amounts of data. While the program is administered through the Department of Biology, faculty from several departments in the College of Science and Technology teach coursework. Thus, a student's primary advisor may come from a department other than Biology.

Areas of Specialization: Students focus on one of four main areas of concentration:

- Biological Data Analysis
- Evolutionary Genomics
- Evolutionary Medicine
- Structural Bioinformatics

Job Prospects: This program produces well-trained bioinformaticians who can be employed across a broad range of informatics fields, including the health professions, pharmaceutical and biotechnology, governmental agencies, as well as academia.

Non-Matriculated Student Policy: Non-matriculated students may enroll in a total of three courses (9 credits) with permission of the instructor and the department.

Financing Opportunities: Temple University offers a limited number of Fellowships to support outstanding students in the doctoral program. Fellowships typically provide support, including a stipend and tuition, for two years.

Additional support is available in the form of Teaching and Research Assistantships. The principal duties of a Teaching Assistant include assisting faculty in the classroom; offering field and laboratory instruction; preparing materials for demonstration; conducting tutorials and laboratory sessions; and grading labs, quizzes, and tests. Attendance at weekly laboratory preparation sessions is required. The duties of a Research Assistant vary depending on the faculty member or principal investigator who is directing a specific research project. The appropriate project(s) are determined by consultation between the student and the student's academic and research advisors. Research Assistants are expected to devote 20 hours per week to research obligations. Both Teaching and Research Assistantships typically provide a nine-month academic-year stipend and full tuition remission (up to 9 credits per term), but are generally awarded on a per term basis. Summer stipends are also available. Assistantships are awarded competitively.

Admission Requirements and Deadlines

Application Deadline:

Fall: January 5; November 15 international
Spring: October 15; August 1 international

To be considered for a University Fellowship, applications must be complete and on file by January 5.

Matriculation in the Fall is highly recommended. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty whose research and teaching are in relevant areas, and who are familiar with the applicant's academic and/or research or computational abilities. Letters should be sent to cstgrad@temple.edu.

Coursework Required for Admission Consideration: Applicants should have a solid background in Biology or Biochemistry, and have had significant experience in computer programming. Alternately, a student may have a solid background in computer science and significant exposure to the life sciences, particularly genomics or structural biochemistry. Other backgrounds are considered if the applicant has broad experience across two or more STEM fields.

Master's Degree in Discipline/Related Discipline: A master's degree is not required.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree in a STEM field is required.

Statement of Goals: Approximately 500 to 1,000 words include your interest in Temple's program, your computational background, your research goals, and your academic and research achievements.

Standardized Test Scores:

- GRE: Required, with combined minimum score of 305 on the quantitative and verbal reasoning sections.
- TOEFL: 90 iBT or 575 PBT minimum

Transfer Credit: Graduate credits from an accredited institution may be transferred into the Bioinformatics program. The credits must be equivalent to coursework offered by the College of Science and Technology at Temple University. A grade of “B” or better must have been earned for the credits to transfer. The Bioinformatics Steering
Committee makes recommendations to the Biology Department Chair for transferring credits on an individual basis. The maximum number of credits a student may transfer is 6.

**Advanced Standing:** A student who has completed a master's degree at another institution may apply for advanced standing. Students are awarded varying numbers of credit of advanced standing. This differs from transfer credit in that the number of credits awarded is recorded on the transcript without specific information about the courses transferred. The effect of having advanced standing is to reduce the total number of credits the student is required to take at Temple University.

**Program Requirements**

**General Program Requirements:**
*Number of Credits Required Beyond the Baccalaureate:* 36

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 5312</td>
<td>Biostatistics</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 5403</td>
<td>Genomics</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 8003</td>
<td>Introduction to Graduate Research</td>
<td>3</td>
</tr>
<tr>
<td>CIS 5015</td>
<td>Scripting for Sciences and Business</td>
<td>3</td>
</tr>
<tr>
<td>CIS 5002</td>
<td>Database Design &amp; Programming</td>
<td>3</td>
</tr>
<tr>
<td>CIS 5011</td>
<td>Programming and Data Structure</td>
<td>3</td>
</tr>
<tr>
<td>CIS 5516</td>
<td>Principles of Data Management</td>
<td>3</td>
</tr>
<tr>
<td>CIS 5526</td>
<td>Machine Learning</td>
<td>3</td>
</tr>
</tbody>
</table>

**Concentration Courses:** 12

- **Biological Data Analysis**
  - BIOL 5466 | Contemporary Biology
  - CIS 5523 | Knowledge Discovery and Data Mining

- **Two electives selected from the following:**
  - CIS 5002 | Database Design & Programming
  - CIS 5011 | Programming and Data Structure
  - CIS 5516 | Principles of Data Management
  - CIS 5526 | Machine Learning

- **Evolutionary Genomics**
  - BIOL 5509 | Computational Genomics

- **Two electives selected from:**
  - BIOL 5112 | Fundamentals of Genomic Evolutionary Medicine
  - BIOL 5128 | Genomics and Infectious Disease Dynamics
  - BIOL 5241 | Genomics and Evolutionary Biology of Parasites and Other Dependent Species

- **Evolutionary Medicine**
  - BIOL 5112 | Fundamentals of Genomic Evolutionary Medicine
  - BIOL 5128 | Genomics and Infectious Disease Dynamics
  - BIOL 5241 | Genomics and Evolutionary Biology of Parasites and Other Dependent Species

- **BIOL 5509 | Computational Genomics**

- **Structural Bioinformatics**
  - BIOL 5411 | Structural Bioinformatics I
  - CHEM 5412 | Structural Bioinformatics II

- **Two electives selected from:**
  - BIOL 5112 | Fundamentals of Genomic Evolutionary Medicine
  - BIOL 5509 | Computational Genomics

- **CHEM 5102 | Data Analysis and Evidence**
- **CHEM 5302 | Statistical Thermodynamics**

**Research Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 9994</td>
<td>Preliminary Examination Preparation</td>
<td>12</td>
</tr>
<tr>
<td>BIOL 9998</td>
<td>Pre-Dissertation Research / Elevation to Candidacy</td>
<td>12</td>
</tr>
<tr>
<td>BIOL 9999</td>
<td>Dissertation Research</td>
<td>12</td>
</tr>
</tbody>
</table>

**Total Credit Hours:** 36

**Additional Requirements:**

All graduate-level courses must be passed with a "B-" or better.

All Ph.D. candidates must have experience teaching at Temple University. A minimum teaching requirement of one term may be satisfied by serving as a Teaching Assistant in a Bioinformatics-affiliated department.

Attendance at scheduled departmental colloquia is required.

**Culminating Events:**

**Preliminary Examination:**

The student independently prepares a written proposal and submits it to the Graduate Committee by April 1 of the student’s fourth term. The proposal should follow the general format of a postdoctoral proposal to a federal granting agency (e.g., NIH). It should include background surrounding a particular research problem, including literature related to the problem, and a detailed methodological plan for investigating the problem. The sections of the written proposal should include: Title; Abstract (not to exceed 300 words); Specific Aims; Background and Significance; Preliminary Data; Experimental Design (including Rationale, Specific Methods, Interpretation of Possible Results, and Pitfalls and Alternative Strategies); and References. The preliminary exam proposal should be 15 to 20 pages in length. The research advisor is not to make direct contributions.

The Area Committee has two weeks in which to review the written proposal, and the student is allowed only one re-write. If the proposal is not accepted after the first re-write, the student is considered to have failed the exam. If the written proposal is accepted, an oral examination is scheduled through the Graduate Secretary and held within two weeks. The oral examination tests the student’s understanding of the background and substance of the research proposal and her/his understanding of the area of specialization in which the research is embedded.

The preliminary examination is administered by the Preliminary Examination Committee. The student’s primary research advisor is allowed to attend but must remain silent unless called upon by the Committee for clarification or advice. A minimum of three examiners serve on the Preliminary Examination Committee. The full exam, both written and oral, is graded by the Preliminary Examination Committee, and one of the following grades is assigned: Pass or Fail. The evaluators look for a breadth and depth of understanding of specific research areas, a critical application of that knowledge to specific biological phenomena, and an ability to write a proposal in a manner consistent with scientists in the student’s specialization. The student is notified of the grade the day the exam is taken. A passing grade requires a 2/3 majority of the Preliminary Examination Committee. If a student receives a grade of Fail, s/he may retake the exam one additional time. Examinations that are to be retaken must be completed before October 1 of the following academic year.

**Dissertation:**
The doctoral dissertation is an original bioinformatics study that demonstrates the student's knowledge of research methods and mastery of her/his primary area of research.

The Doctoral Advisory Committee includes a minimum of four members: three from the list of CST faculty affiliated with the Bioinformatics Ph.D. program, including the advisor, and one from outside the College of Science and Technology. Departmental/affiliated faculty members must be Graduate Faculty or equivalent research faculty and are chosen by the student and advisor. The Doctoral Advisory Committee is to be formed within 2 to 3 months after successful completion of the preliminary examination, with the exception of the outside member who may be chosen just prior to the dissertation defense. The student may petition the Biology Department Graduate Committee to change an advisor or committee member.

The Doctoral Examination is to consist of a formal departmental colloquium open to the public, but conducted by the Doctoral Advisory Committee. The student then meets with the Dissertation Examining Committee after the colloquium for the dissertation defense. The penultimate version of the dissertation must be approved by the Doctoral Advisory Committee at least two weeks before the Graduate School deadline for submission of final copies.

The scheduling of the dissertation defense is to be arranged by the dissertation advisor. The Graduate School must be notified at least ten working days in advance. Announcements of the dissertation defense are posted around the Biology Department and the host department as well as advertised via e-mail or listserv.

### Contacts

**Program Web Address:**
http://phdbioinform.cst.temple.edu/

**Department Information:**
Dept. of Biology  
255 Biology-Life Sciences Building  
1900 N. 12th Street  
Philadelphia, PA 19122-6078  
grad.bio@temple.edu  
215-204-8877

**Submission Address for Application Materials:**
https://apply.temple.edu/CST/

**Department Contacts:**

**Admissions:**  
Sandhya Verma  
grad.bio@temple.edu  
215-204-8854

**Program Director:**  
Rob J. Kulathinal  
robkulathinal@temple.edu  
215-204-0620

**Department Chairperson:**  
Robert Sanders  
robert.sanders@temple.edu

**215-204-8851**

### Bioinnovation, P.S.M.

**COLLEGE OF SCIENCE AND TECHNOLOGY** (https://cst.temple.edu)


### About the Program

Bioinnovation entails identification, commercialization, and dissemination of novel biological technologies, concepts, and models. The primary objective of the Professional Science Master's (P.S.M.) program in Bioinnovation is to develop a portfolio of knowledge and experience that allows individuals with a background in science, business, communication, law, and policy and regulation to pursue careers in such fast-growing fields as bioinformation, the environment, global health, pharmaceuticals and biotechnology, technology transfer, and trade. The program offers:

- extensive biotechnology and biomedical background to challenge and complement traditional thinking and applications;
- review of the translational nature of biodiscoveries through classroom instruction and direct interaction with different bioindustry professionals, including scientists, lawyers, journalists, and others; and
- development of team and matrix work routines and effective communication skills.

The Bioinnovation P.S.M. program draws on the strengths of Temple faculty in the College of Science and Technology and the Fox School of Business and Management. Program development and implementation are executed by the P.S.M. in Bioinnovation Steering Committee, which partners with Internal and External Advisory Board members and the Temple University Graduate School.

**Time Limit for Degree Completion:** 2 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The degree program can be completed on a full- or part-time basis. Most of the classes are offered in the evenings or on weekends to enable full-time working professionals to be enrolled in the program. International students are required to register as full-time students.

**Interdisciplinary Study:** The two-year program consists of a series of multi- and interdisciplinary core courses related to application of systems biology; dissemination of biodiscoveries; epigenetic and genetic applications in drug design and drug response; ethics, regulation, and policy; feasibility assessment of innovative business ideas; innovation in biomodels and concepts; management and marketing for technologists; and research and commercialization of biomarkers and biotargets. Many of the courses are writing intensive and also provide students with opportunities to sharpen their oral presentation skills. All student research projects are developed with the cooperation of Temple faculty and members of our External Advisory Board under the guidance of the P.S.M. in Bioinnovation Steering Committee.

**Accreditation:** Temple University is fully accredited by the Middle States Commission on Higher Education.
Areas of Specialization: Three areas of concentration are offered:

- Bioinnovation in Environment and Society
- Current Topics in Bioinnovation
- Implementation of Biodiscoveries in Health and Other Industries

Job Prospects: Official job placement is not offered, but prospects are good. The program is designed to help recent graduates obtain relevant employment as well as accelerate career advancement and/or allow career shift of currently employed professionals. Graduates of P.S.M. programs are in high demand, which underscores the P.S.M. as an attractive career path for those who do not wish to become academic researchers or pursue a doctorate.

Non-Matriculated Student Policy: Non-matriculated students may enroll in a total of three courses (9 credits) with permission of the instructor and the Biology Department.

Financing Opportunities: Financial assistance in the form of Research or Teaching Assistantships is not offered at this time.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1; December 15 international
Spring: October 30

Applications are processed on a continual basis. Ordinarily, the applicant is informed of an admissions decision within four to six weeks of receipt of all supporting application documents. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 3

From Whom: Letters should be obtained from college/university faculty or faculty who are familiar with the applicant's competency. If the applicant has an established career in a related field, the applicant's immediate supervisor should provide one of the letters.

Coursework Required for Admission Consideration: Applicants should have a solid background in one or more of the following fields: science, business, communication, law, and policy and regulation. The P.S.M. in Bioinnovation Steering Committee may allow departures from course requirements upon review.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree in Biology, Chemistry, Business, or Communication, or a Juris Doctor in Law (or foreign equivalent) is required. Non-STEM graduates are required to enroll in at least two Biology foundation courses, as recommended by the P.S.M. in Bioinnovation Steering Committee, on a non-matriculated basis.

Statement of Goals: Approximately 500 to 1,000 words specify your interest in the Bioinnovation P.S.M. program, your career goals, and your academic and professional achievements.

Standardized Test Scores:

GRE: Combined minimum score of 305 on the quantitative and verbal reasoning sections

TOEFL: 90 iBT or 575 PBT minimum

Interview: In-person or video interview required.

Transfer Credit: Graduate credits from an accredited institution may be transferred into the Bioinnovation P.S.M. program. The credits must be equivalent to coursework offered by the Biology Department at Temple University. A grade of "B" or better must have been earned for the credits to transfer. The P.S.M. in Bioinnovation Steering Committee makes recommendations to the Department Chair for transferring credit on an individual basis. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 5226</td>
<td>Innovative Biomodels and Concepts</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 5227</td>
<td>Biomarkers and Biotargets: Research and Commercialization</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 5228</td>
<td>Epigenetics, Genetics: Applications in Drug Design and Drug Response</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 5229</td>
<td>Systems Biology: Principles and Applications</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 5239</td>
<td>Dissemination of Biodiscoveries and Virtual Reality in Medicine</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 5505</td>
<td>Ethics Regulation and Policy in Biotechnology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 9995</td>
<td>Capstone Project ¹</td>
<td>3</td>
</tr>
<tr>
<td>SGM 5136</td>
<td>Principles of Strategy and Management ²</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives: 6

Total Credit Hours: 30

¹ A total of 3 credits of BIOL 9995 is required for the P.S.M. in Bioinnovation program. Students may start their capstone research project at any time with advisor approval.

² Any recommended graduate-level introductory course offered by the Fox School of Business and Management may be substituted for SGM 5136 with advisor approval.

Proposed Progressive Coursework Outlined by Year:

Year 1

Fall

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit</th>
</tr>
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<tbody>
<tr>
<td>BIOL 5226</td>
<td>Innovative Biomodels and Concepts</td>
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</tr>
<tr>
<td>BIOL 5227</td>
<td>Biomarkers and Biotargets: Research and Commercialization</td>
<td>3</td>
</tr>
<tr>
<td>SGM 5136</td>
<td>Principles of Strategy and Management ¹</td>
<td>3</td>
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</table>

Term Credit Hours: 9

Spring

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>BIOL 5228</td>
<td>Epigenetics, Genetics: Applications in Drug Design and Drug Response</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 5229</td>
<td>Systems Biology: Principles and Applications</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 5239</td>
<td>Dissemination of Biodiscoveries and Virtual Reality in Medicine</td>
<td>3</td>
</tr>
</tbody>
</table>
Elective\(^2,3\) 3

**Year 2**

**Summer I**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 9995</td>
<td>Capstone Project(^4)</td>
<td>1</td>
</tr>
</tbody>
</table>

**Fall**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 5505</td>
<td>Ethics Regulation and Policy in Biotechnology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 9995</td>
<td>Capstone Project(^4)</td>
<td>1</td>
</tr>
<tr>
<td>Elective(^2,3)</td>
<td></td>
<td>3</td>
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</tbody>
</table>

**Spring**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 9995</td>
<td>Capstone Project(^4)</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total Credit Hours:** 30

1. Any recommended graduate-level introductory course offered by the Fox School of Business and Management may be substituted for SGM 5136 with advisor approval.

2. Students are required to take 6 credits of electives. These can be selected from the program's approved list of electives; any graduate course offered by the Fox School of Business and Management; or any other Temple University graduate-level course that aligns with the students' career goals.

3. Electives are shown in the plan of study as 3-credit courses taken in two academic terms. If students choose to take electives that are fewer than 3 credits and additional time is needed to complete elective coursework, it is recommended that those elective credits be taken in the Spring term of Year 2.

4. A total of 3 credits of BIOL 9995 is required for the P.S.M. in Bioinnovation program. Students may start their capstone research project at any time with advisor approval. These credits are shown in the plan of study as 1 credit taken in each of three academic terms. Students may elect to distribute the 3 required credits over one, two, or three terms, as their schedule allows.

**Approved Electives:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>BIOL 5234</td>
<td>Bioinnovation Seminar(^1)</td>
<td>1.5</td>
</tr>
<tr>
<td>BIOL 5235</td>
<td>Milestones in Clinical Translation of Biodiscoveries(^1)</td>
<td>1.5</td>
</tr>
<tr>
<td>BIOL 5236</td>
<td>Bioadvanced Screening in Health Disparity(^1)</td>
<td>1.5</td>
</tr>
<tr>
<td>SGM 5137</td>
<td>Entrepreneurial Thinking and New Venture Creation</td>
<td>3</td>
</tr>
<tr>
<td>SGM 5138</td>
<td>Global Innovation Strategy: Creating Agile, Innovative, Globally-Competitive Organizations</td>
<td>3</td>
</tr>
<tr>
<td>SGM 5139</td>
<td>Lean Entrepreneurship / Innovation: Fast &amp; Frugal Methods to Launch Startups &amp; Test Innovative Ideas</td>
<td>3</td>
</tr>
<tr>
<td>SGM 5142</td>
<td>Business Model Innovation</td>
<td>3</td>
</tr>
<tr>
<td>SGM 5144</td>
<td>Creativity Unleashed: Harnessing Creativity to Solve Real-World Innovation Challenges</td>
<td>3</td>
</tr>
<tr>
<td>SGM 5148</td>
<td>Open Innovation and Managing Strategic Alliances</td>
<td>3</td>
</tr>
</tbody>
</table>

Or any other graduate course offered by the Fox School of Business and Management or Temple University graduate-level course that aligns with the student's career goals.

**Additional Requirements:**

All graduate-level courses must be passed with a "B-" or better.

Attendance at scheduled departmental colloquia is required.

**Culminating Events:**

*Capstone Project:*

BIOL 9995 constitutes the capstone experience for the Bioinnovation P.S.M. and requires the submission of a written project and oral presentation of the results.

**Contacts**

**Program Web Address:**

http://bioinnopsm.cst.temple.edu

**Department Information:**

Dept. of Biology
255 Biology-Life Sciences Building
1900 N. 12th Street
Philadelphia, PA 19122-6078
sfreer@temple.edu
215-204-0306

**Submission Address for Application Materials:**

https://apply.temple.edu/CST/

**Department Contacts:**

*Program Director:*
Antonio Giordano
Professor of Biology
giordano@temple.edu
215-204-9521

*Academic Advisor, Bioinnovation P.S.M. Program:*
Marcella Macaluso
Associate Professor of Biology
macaluso@temple.edu
215-204-9523

*Assistant Director, P.S.M. Programs:*
Seema Freer
Associate Professor of Biology
sfreer@temple.edu
215-204-8842

**Biology, M.A.**

COLLEGE OF SCIENCE AND TECHNOLOGY (https://cst.temple.edu)

Learn more about the Master of Arts in Biology (https://www.temple.edu/academics/degree-programs/biology-ma-st-biol-ma).
About the Program

The M.A. in Biology emphasizes contemporary coursework for students to gain advanced understanding within the field of modern biology. The Biology M.A. degree program is designed for students seeking graduate studies in the biological sciences without experimental research in labs. In comparison with the Biology M.S. (p. 752), the M.A. in Biology program focuses primarily on coursework and independent research, which helps the student form expertise in one or more areas of biology. Students develop the analytical thinking skills necessary for biological research and literature review.

Time Limit for Degree Completion: 3 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis. Many classes are offered in the evening to enable full-time working professionals to be enrolled in the program. International students are required to register as full-time students.

Interdisciplinary Study: The program encourages interdisciplinary coursework in Biochemistry, Chemistry, Computer Science, Environmental Science, Engineering, Mathematics, and Physics. Special interdisciplinary programs in which faculty from the Biology Department participate include the Center for Biotechnology, Center for Computational Genetics and Genomics, the Institute for Computational Molecular Science, the Institute for Genomics and Evolutionary Medicine, and the Environmental Studies and Neuroscience Programs.

Areas of Specialization: Faculty members specialize in the areas of Aquatic and Terrestrial Ecology, Biochemistry, Biophysics, Cell Biology, Computational Genomics, Developmental Biology, Evolutionary and Organismal Biology, Genetics, Molecular Biology, Molecular Evolution, Neurobiology, and Virology.

Job Prospects: Graduates are prepared for professional schools or careers in fields related to the biological sciences, including academia, biotechnology, government, health professions, and pharmaceuticals.

Non-Matriculated Student Policy: Non-matriculated students may enroll in a total of three courses (9 credits) with permission of the instructor and the department.

Financing Opportunities: University Fellowships, Graduate Assistantships, and Academic Internships are normally reserved for Ph.D. students.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1; December 15 international
Spring: October 30

Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 3

From Whom: Letters should be obtained from college/university faculty, whenever possible. Letters may be uploaded at https://apply.temple.edu/CST/.

Coursework Required for Admission Consideration: Applicants should have a solid background in Biology and should have taken at least eight undergraduate Biology courses and one year each of Calculus, Chemistry, and Physics. The Biology Department Graduate Committee may allow exceptions to these course requirements after review.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree in a science field is required.

Statement of Goals: Approximately 500 to 1,000 words include your interest in Temple's program, your academic achievements, your research goals, and the names of up to three faculty with whom you would like to conduct your capstone master's research thesis.

Standardized Test Scores:

GRE: Combined minimum score of 300 on the quantitative and verbal reasoning sections.

TOEFL: 90 iBT or 575 PBT minimum

Transfer Credit: Graduate credits from an accredited institution may be transferred into the Biology program. The credits must be equivalent to coursework offered by the Biology Department at Temple University. A grade of "B" or better must have been earned for the credits to transfer. The Biology Department Graduate Committee makes recommendations to the Department Chair for transferring credit on an individual basis. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 8003</td>
<td>Introduction to Graduate Research</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Two 3-credit Graduate Seminar Courses</td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
<td>Select courses from the following to total 15 credits:</td>
<td>15</td>
</tr>
<tr>
<td>BIOL 5101</td>
<td>Evolution</td>
<td></td>
</tr>
<tr>
<td>BIOL 5111</td>
<td>Genomics in Medicine</td>
<td></td>
</tr>
<tr>
<td>BIOL 5112</td>
<td>Fundamentals of Genomic Evolutional Medicine</td>
<td></td>
</tr>
<tr>
<td>BIOL 5114</td>
<td>Evolutionary Ecology</td>
<td></td>
</tr>
<tr>
<td>BIOL 5128</td>
<td>Genomics and Infectious Disease Dynamics</td>
<td></td>
</tr>
<tr>
<td>BIOL 5241</td>
<td>Genomics and Evolutionary Biology of Parasites and Other Dependent Species</td>
<td></td>
</tr>
<tr>
<td>BIOL 5254</td>
<td>Animal Behavior</td>
<td></td>
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<tr>
<td>BIOL 5275</td>
<td>Ecology of Invasive Species</td>
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<tr>
<td>BIOL 5301</td>
<td>Cell Biology</td>
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<td>BIOL 5307</td>
<td>Conservation Biology</td>
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<tr>
<td>BIOL 5312</td>
<td>Biostatistics</td>
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<td>BIOL 5321</td>
<td>Plant Community Ecology</td>
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<td>BIOL 5325</td>
<td>Research Techniques in Molecular Biology</td>
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<tr>
<td>BIOL 5358</td>
<td>Cellular/Molecular Neuroscience</td>
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<tr>
<td>BIOL 5403</td>
<td>Genomics</td>
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<tr>
<td>BIOL 5411</td>
<td>Structural Bioinformatics</td>
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</tr>
<tr>
<td>BIOL 5416</td>
<td>Tropical Marine Biology: Belize</td>
<td></td>
</tr>
</tbody>
</table>
Biology, M.S.

COLLEGE OF SCIENCE AND TECHNOLOGY (https://cst.temple.edu)

Learn more about the Master of Science in Biology (https://www.temple.edu/academics/degree-programs/biology-ms-st-biol-ms).

About the Program

The M.S. in Biology offers students rigorous advanced study of the Biological Sciences. Broad preparation is offered in major research areas in Biology through a variety of formal courses and advanced seminars. Students are encouraged to take courses in related sciences. Preparation for both research and teaching is important.

Time Limit for Degree Completion: 3 years

Campus Location: Main

Full-Time/Part-Time Status: Full-time study is required.

Interdisciplinary Study: The program encourages interdisciplinary research and coursework in Biochemistry, Chemistry, Computer Science, Environmental Science, Engineering, Mathematics, and Physics. Special interdisciplinary programs in which faculty from the Biology Department participate include the Center for Biotechnology, Center for Computational Genetics and Genomics, the Institute for Computational Molecular Science, the Institute for Genomics and Evolutionary Medicine, and the Environmental Studies and Neuroscience Programs.
Areas of Specialization: Faculty members specialize in the areas of Aquatic and Terrestrial Ecology, Biochemistry, Biophysics, Cell Biology, Computational Genomics, Developmental Biology, Evolutionary and Organismal Biology, Genetics, Molecular Biology, Molecular Evolution, Neurobiology, and Virology.

Job Prospects: The department produces well-trained biologists who find work in the biotechnology, health professions, and pharmaceutical fields, or in academia or government.

Non-Matriculated Student Policy: Non-matriculated students may enroll in a total of three courses (9 credits) with permission of the instructor and the department.

Financing Opportunities: University Fellowships, Graduate Assistantships, and Academic Internships are normally reserved for Ph.D. students.

Admission Requirements and Deadlines

Application Deadline:

Fall: January 15; December 15 international
Spring: October 15; August 1 international (Fall matriculation recommended)

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 3

From Whom: Letters should be obtained from college/university faculty, preferably those in laboratory science areas, who are familiar with the applicant's academic and/or research abilities. Letters may be uploaded at https://apply.temple.edu/CST/.

Coursework Required for Admission Consideration: Applicants should have a solid background in Biology and should have taken at least eight undergraduate Biology courses and one year each of Calculus, Chemistry, and Physics. The Biology Department Graduate Committee may allow exceptions to these course requirements after review.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree in a science field is required.

Statement of Goals: Approximately 500 to 1,000 words include your interest in Temple's program, your academic achievements, your research goals, and the names of up to three faculty with whom you would like to conduct your master's research thesis.

Standardized Test Scores:

GRE: Combined minimum score of 300 on the quantitative and verbal reasoning sections.

TOEFL: 90 iBT or 575 PBT minimum

Transfer Credit: Graduate credits from an accredited institution may be transferred into the Biology program. The credits must be equivalent to coursework offered by the Biology Department at Temple University. A grade of "B" or better must have been earned for the credits to transfer. The Biology Department Graduate Committee makes recommendations to the Department Chair for transferring credit on an individual basis. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

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<tr>
<th>Code</th>
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<th>Credit Hours</th>
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<td>BIOL 5101</td>
<td>Evolution</td>
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<tr>
<td>BIOL 5225</td>
<td>Evolutionary Genetics Genomics</td>
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<tr>
<td>BIOL 5232</td>
<td>Behavioral Genetics</td>
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<td>BIOL 5254</td>
<td>Animal Behavior</td>
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<td>Conservation Biology</td>
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<td>BIOL 5311</td>
<td>Herpetology</td>
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<tr>
<td>BIOL 5312</td>
<td>Biostatistics</td>
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<td>Plant Community Ecology</td>
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<td>BIOL 5322</td>
<td>Biology of Plants</td>
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<td>BIOL 5337</td>
<td>Comparative Biomechanics</td>
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<td>BIOL 5428</td>
<td>Virology</td>
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<td>BIOL 5429</td>
<td>Developmental Genetics</td>
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<td>BIOL 5436</td>
<td>Freshwater Ecology</td>
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<td>BIOL 5452</td>
<td>Systems Neuroscience</td>
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<td>BIOL 5454</td>
<td>Neurological Basis of Animal Behavior</td>
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<td>BIOL 5456</td>
<td>Organization and Development of the Nervous System</td>
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<tr>
<td>BIOL 5464</td>
<td>Biochemistry of Embryogenesis</td>
<td></td>
</tr>
<tr>
<td>BIOL 5465</td>
<td>Mammalian Development</td>
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<tr>
<td>BIOL 5466</td>
<td>Contemporary Biology (with approval)</td>
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<td>BIOL 5469</td>
<td>Molecular Biology</td>
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<td>BIOL 5471</td>
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<td>BIOL 5501</td>
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<tr>
<td>BIOL 5502</td>
<td>Microbial Biotechnology</td>
<td></td>
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</tbody>
</table>

Two 3-credit Graduate Seminar Courses 6

Total Credit Hours 18-21

Additional Requirements:

All graduate-level courses, including Biochemistry, must be passed with a "B-" or better.

Attendance at scheduled departmental colloquia is required.

Culminating Events:

Thesis:
The master's thesis is an original empirical study that demonstrates the student's knowledge of research methods and mastery of her/his primary area of interest. The thesis should be limited to a specific problem in the Biological Sciences and investigated under the direct supervision of a major advisor.

A student preparing to defend a master's thesis should confirm a date and time with her/his committee, composed of both the major advisor and another member of the Graduate Faculty. The student should then register with the Graduate Secretary. After the date, time, and room are approved, the Biology Department posts flyers announcing the defense.

The student’s committee is responsible for evaluating the thesis and its oral defense in a public presentation. The committee votes to pass or fail the thesis and defense at the end of the public presentation. If revisions are required, the committee must approve the changes.

Contacts

**Department Web Address:**
https://bio.cst.temple.edu/

**Department Information:**
Dept. of Biology
255 Biology-Life Sciences Building
1900 N. 12th Street
Philadelphia, PA 19122-6078
grad.bio@temple.edu
215-204-8877

**Submission Address for Application Materials:**
https://apply.temple.edu/CST/

**Department Contacts:**

*Admissions:*
Sandhya Verma
grad.bio@temple.edu
215-204-8854

*Program Coordinator:*
Richard Waring
waring@temple.edu
215-204-8877

*Graduate Chairperson:*
Richard Waring
waring@temple.edu
215-204-8877

*Department Chairperson:*
Robert Sanders
robert.sanders@temple.edu
215-204-8851

**Biology, Ph.D.**

COLLEGE OF SCIENCE AND TECHNOLOGY (https://cst.temple.edu)


**About the Program**

The Ph.D. in Biology offers students rigorous advanced study of the Biological Sciences. Broad preparation is offered in major research areas in Biology through a variety of formal courses and advanced seminars. Students are encouraged to take courses in related sciences. Preparation for both research and teaching is important.

**Time Limit for Degree Completion:** 7 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** Full-time study is required.

**Interdisciplinary Study:** The program encourages interdisciplinary research and coursework in Biochemistry, Chemistry, Computer Science, Environmental Science, Engineering, Mathematics, and Physics. Special interdisciplinary programs in which faculty from the Biology Department participate include the Center for Biotechnology, Center for Computational Genetics and Genomics, the Institute for Computational Molecular Science, the Institute for Genomics and Evolutionary Medicine (see http://igem.temple.edu/education/overview), and the Environmental Studies and Neuroscience Programs.

**Areas of Specialization:** Faculty members specialize in the areas of Aquatic and Terrestrial Ecology, Biochemistry, Biophysics, Cell Biology, Computational Genomics, Developmental Biology, Evolutionary and Organismal Biology, Genetics, Molecular Biology, Molecular Evolution, Neurobiology, and Virology.

**Job Prospects:** The department produces well-trained biologists who find work in the biotechnology, health professions, and pharmaceutical fields, or in academia or government.

**Non-Matriculated Student Policy:** Non-matriculated students may enroll in a total of three courses (9 credits) with permission of the instructor and the department.

**Financing Opportunities:** Temple University offers a limited number of Fellowships to support outstanding students in the doctoral program. Fellowships typically provide support, including a stipend and tuition, for two years.

Additional support is available in the form of Teaching and Research Assistantships. The principal duties of a Teaching Assistant include assisting faculty in the classroom; offering field and laboratory instruction; preparing materials for demonstration; conducting tutorials and laboratory sessions; and grading labs, quizzes, and tests. Attendance at weekly laboratory preparation sessions is required. The duties of a Research Assistant vary depending on the faculty member or principal investigator who is directing a specific research project. The appropriate project(s) are determined by consultation between the student and the student's academic and research advisors. Research Assistants are expected to devote 20 hours per week to research obligations. Both Teaching and Research Assistantships typically provide a nine-month academic-year stipend and full tuition remission (up to 9 credits per term), but are generally awarded on a per term basis. Summer stipends are also available. Assistantships are awarded competitively.

**Admission Requirements and Deadlines**

*Application Deadline:*
Fall: December 15; November 15 international
To be considered for a University Fellowship, applicants should have an essentially complete application on file by January 5.

Matriculation in the Fall is highly recommended. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 3

From Whom: Letters should be obtained from college/university faculty, preferably those in laboratory science areas, who are familiar with the applicant's academic and/or research abilities. Letters may be uploaded at https://apply.temple.edu/CST/.

Coursework Required for Admission Consideration: Applicants should have a solid background in Biology and should have taken at least eight undergraduate Biology courses and one year each of Calculus, Chemistry, and Physics. The Biology Department Graduate Committee may allow exceptions to these course requirements after review.

Master's Degree in Discipline/Related Discipline: A master's degree is not required.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree in Biology or another science field is required.

Statement of Goals: Approximately 500 to 1,000 words include your interest in Temple's program, your research goals, and your academic and research achievements.

Standardized Test Scores:
GRE: Required, with combined minimum score of 305 on the quantitative and verbal reasoning sections.
TOEFL: 90 iBT or 575 PBT minimum

Transfer Credit: Graduate credits from an accredited institution may be transferred into the Biology program. The credits must be equivalent to coursework offered by the Biology Department at Temple University. A grade of “B” or better must have been earned for the credits to transfer. The Biology Department Graduate Committee makes recommendations to the Department Chair for transferring credit on an individual basis. The maximum number of credits a student may transfer is 6.

Advanced Standing: A student who has completed a master's degree at another institution may apply for advanced standing. Students are awarded varying numbers of credit of advanced standing up to a maximum of 18 credits. This differs from transfer credit in that the number of credits awarded is recorded on the transcript without specific information about the courses transferred. The effect of having advanced standing is to reduce the total number of credits the student is required to take at Temple University.

Program Requirements

General Program Requirements:
Number of Didactic Credits Required Beyond the Master's: 10

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>BIOL 8003</td>
<td>Introduction to Graduate Research</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 8220</td>
<td>Seminar (1 s.h. in the Fall and 2 s.h. in the Spring)</td>
<td>3</td>
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<td>Five 3-s.h. Graduate Seminars</td>
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<td>15</td>
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Select other coursework from the following:

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<tr>
<th>Code</th>
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<tbody>
<tr>
<td>BIOL 5101</td>
<td>Evolution</td>
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<td>BIOL 5225</td>
<td>Evolutionary Genetics Genomics</td>
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<td>BIOL 5232</td>
<td>Behavioral Genetics</td>
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<tr>
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<td>Animal Behavior</td>
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<td>Herpetology</td>
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<td>Biostatistics</td>
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<tr>
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<td>Plant Community Ecology</td>
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<td>Comparative Biomechanics</td>
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<tr>
<td>BIOL 5465</td>
<td>Mammalian Development</td>
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<td>BIOL 5466</td>
<td>Contemporary Biology</td>
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<td>BIOL 5469</td>
<td>Molecular Biology</td>
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<td>BIOL 5471</td>
<td>Cell Proliferation</td>
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<tr>
<td>BIOL 5474</td>
<td>Physical Biochemistry</td>
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<td>BIOL 5475</td>
<td>General Biochemistry I</td>
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<td>BIOL 5476</td>
<td>General Biochemistry II</td>
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<td>BIOL 5479</td>
<td>Biotechnology</td>
</tr>
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<td>BIOL 5501</td>
<td>Analytical Biotechnology</td>
</tr>
<tr>
<td>BIOL 5502</td>
<td>Microbial Biotechnology</td>
</tr>
</tbody>
</table>

Total Credit Hours 21

1 One 3-credit seminar may be replaced with three 1-credit seminars.

Additional Requirements:
All graduate-level courses must be passed with a “B-” or better.
All Ph.D. candidates must have experience teaching at Temple University. A minimum teaching requirement of two terms may be satisfied by serving as a Teaching Assistant in the Biology Department.
Attendance at scheduled departmental colloquia is required.

Culminating Events:

Preliminary Examination:
The student independently prepares a written proposal and submits it to the Graduate Committee by April 1 of the student's fourth term. The
The doctoral dissertation is an original empirical study that demonstrates the student’s knowledge of research methods and mastery of her/his primary area of research.

The Doctoral Advisory Committee includes a minimum of four members: three from the department, including the advisor, and one from outside the department. Departmental members must be Graduate Faculty or equivalent research faculty and are chosen by the student and advisor. The Doctoral Advisory Committee is to be formed within 2 to 3 months after successful completion of the preliminary examination, with the exception of the outside member who may be chosen just prior to the Initial Dissertation Defense. The student may petition the Biology Department Graduate Committee to change an advisor or committee member.

The Initial Dissertation Defense is to be an open defense to which faculty and graduate students are invited. It is conducted significantly in advance of writing the final draft of the dissertation and is administered by the Dissertation Examining Committee, including the outside member. This is to be arranged by the dissertation advisor and the results reported to the Chair of the Graduate Committee and the Department Chair in writing, signed by committee members.

The Final Doctoral Examination is to consist of a formal departmental colloquium open to the public, but conducted by the Doctoral Advisory Committee. The outside examiner need not be present. The student then meets with the Dissertation Examining Committee after the colloquium for the Final Dissertation Defense. The penultimate version of the dissertation must be approved by the Doctoral Advisory Committee at least two weeks before the Graduate School deadline for submission of final copies.

The scheduling of the Final Dissertation Defense is to be arranged by the dissertation advisor. The Graduate School must be notified at least 10 working days in advance. Announcements of the dissertation defense are posted around the Biology Department and sent via e-mail or listserv.

**Contacts**

**Department Web Address:**
https://bio.cst.temple.edu/

**Department Information:**

Dept. of Biology
255 Biology-Life Sciences Building
1900 N. 12th Street
Philadelphia, PA 19122-6078
grad.bio@temple.edu
215-204-8877

**Submission Address for Application Materials:**
https://apply.temple.edu/CST/

**Department Contacts:**

**Admissions:**
Sandhya Verma
grad.bio@temple.edu
215-204-8854

**Graduate Chairperson:**
Richard Waring
waring@temple.edu
215-204-8877

**Department Chairperson:**
Robert Sanders
robert.sanders@temple.edu
215-204-8851

**Biotechnology, P.S.M.**

[COLLEGE OF SCIENCE AND TECHNOLOGY](https://cst.temple.edu)

Learn more about the Professional Science Master’s in Biotechnology ([https://www.temple.edu/academics/degree-programs/biotechnology-psm-st-biot-psm](https://www.temple.edu/academics/degree-programs/biotechnology-psm-st-biot-psm)).

**About the Program**

The Professional Science Master’s (P.S.M.) program in Biotechnology is a two-year degree program hosted by the Department of Biology, with coursework taught by diverse faculty from Temple University, industry, and government. Students work directly with our research faculty on real-world projects, gaining hands-on skills necessary to solve emerging problems. The program culminates in an independent research project.
Analytical Biotechnology

Biotechnology Laboratory I

Environmental Biotechnology

Ethics Regulation and Policy in Biotechnology

Nucleic Acid Technologies

Fall: March 1; December 15 international

Application Deadline: Admission Requirements and Deadlines

Interdisciplinary Study: The two-year program consists of a series of multi- and interdisciplinary core courses that include current topics in biotechnology, analytical biotechnology, bioethics/policy, bioinformatics, environmental biotechnology, and microbial biotechnology. Many of the courses are writing intensive and also provide students with opportunities to sharpen their oral presentation skills. All student research projects are developed with the cooperation of Temple faculty and members of our External Advisory Board under the guidance of the P.S.M. Steering Committee.

Accreditation: Temple University is fully accredited by the Middle States Commission on Higher Education.

Areas of Specialization: Three areas of concentration are offered:

• Bioinformatics in Biotechnology, which entails decision making based on data accession, as well as manipulation and analysis over a broad range of fields
• Biotechnology in Biomedicine and Drug Discovery, including target identification of disease to drug design, discovery, and optimization
• Biotechnology in Industrial and Environmental Engineering, in partnership with the College of Engineering

Job Prospects: Official job placement is not offered, but prospects are good. Philadelphia and the surrounding Delaware Valley constitute a primary hub for integrative biotechnology since the area is a major center for pharmaceutical companies, chemical industries, and the health sciences. Philadelphia has also exhibited an increasing leadership presence in the emerging Green City movement. Given recent growth in the Biotechnology sector, the demand for a highly trained workforce with a strong science background has soared.

Non-Matriculated Student Policy: Non-matriculated students may enroll in a total of three courses (9 credits) with permission of the instructor and the Biology Department.

Financing Opportunities: Financial assistance in the form of Research or Teaching Assistantships is not offered.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

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<th>Title</th>
<th>Credit Hours</th>
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<td>Biotechnology</td>
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<td>Analytical Biotechnology</td>
<td>1.5</td>
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<td>BIOL 5502</td>
<td>Microbial Biotechnology</td>
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<td>BIOL 5503</td>
<td>Biotechnology Laboratory I</td>
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<td>BIOL 5504</td>
<td>Biotechnology Laboratory II</td>
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<td>BIOL 5505</td>
<td>Ethics Regulation and Policy in Biotechnology</td>
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<td>Professional Development Seminar for PSM in Biotechnology</td>
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<td>BIOL 5521</td>
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<td>BIOL 9995</td>
<td>Capstone Project</td>
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<td>CEE 5793</td>
<td>Environmental Biotechnology</td>
<td>3</td>
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<td>Any Bioinformatics or Genomics 5000-level course</td>
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<tr>
<td>Elective 1</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours: 30

1 Students can take any elective relevant to their area of specialization, including coursework offered by the School of Pharmacy’s RA/QA program. Approval from the P.S.M. Steering Committee is required.

Additional Requirements:
All graduate-level courses must be passed with a "B-" or better.
Attendance at scheduled departmental colloquia is required.

**Culminating Events:**

**Independent Research Project:**
The P.S.M. program in Biotechnology at Temple University offers technical and leadership training to address environmental priorities and human health. In this vein, students select an independent research project (BIOL 9995 Capstone Project) by the end of their first year with mentors at Temple and/or approved co-mentors at any off-campus sites, including pharmaceutical companies and government agencies.

Project proposals, which are approved by the P.S.M. Steering Committee, foster technical and intellectual skill building. At the end of the program, the project is presented in written and oral formats to further develop communication skills. These features provide graduates with knowledge and leadership skills to help tackle real-world problems using Biotechnology.

**Contacts**

**Program Web Address:**
http://biotechpsm.cst.temple.edu/

**Department Information:**
Dept. of Biology
255 Biology-Life Sciences Building
1900 N. 12th Street
Philadelphia, PA 19122-6078
sfreer@temple.edu
215-204-8842

**Submission Address for Application Materials:**
https://apply.temple.edu/CST/

**Department Contacts:**

**Program Director:**
Mark Feitelson
feitelson@temple.edu
215-204-8434

**Assistant Program Director:**
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sfreer@temple.edu
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**Department Chairperson:**
Robert Sanders
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215-204-8851

**Chemistry, M.S.**

COLLEGE OF SCIENCE AND TECHNOLOGY (https://cst.temple.edu)

Learn more about the Master of Science in Chemistry (https://www.temple.edu/academics/degree-programs/chemistry-ms-st-chems).

**About the Program**

The Chemistry graduate program is designed to provide a solid background in the chosen area of specialization. It emphasizes the acquisition of skills that enable students to gain further knowledge in their research and professional careers. For this reason, the Chemistry graduate degree program is research oriented, and seminar attendance and familiarization with the chemical literature are considered integral.

The course requirements are comparatively light, although a wide variety of intermediate and advanced courses in related areas are offered. Students are encouraged to take courses in related areas, such as Biology, Computer Science, and Physics, according to their research interests.

**Time Limit for Degree Completion:** 3 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The degree program can be completed on a full- or part-time basis.

**Interdisciplinary Study:** A Chemical Physics program is offered jointly with the Department of Physics.

**Areas of Specialization:** The Department of Chemistry offers programs leading to the M.S. and Ph.D. degrees in Analytical Chemistry, Biochemistry, Inorganic Chemistry, Organic Chemistry, and Physical Chemistry. Areas of specialization include environmental chemistry, materials and polymers, medicinal, nanoscience, photonics, and surface science. For the master’s program, two options are offered:

- **Thesis Track,** which is designed for students who are not full-time. Students cannot receive financial support from the Chemistry Department when completing this option. Any student wanting to pursue this option must receive prior approval from the Graduate Committee.
- **Coursework Track,** which is designed for students who already have extensive experience in the laboratory and are currently employed in the local chemical industry. Students must obtain permission from the Graduate Committee to pursue this option.

**Job Prospects:** The majority of students find employment in the chemical industry. Some go on to academic positions or positions in government laboratories.

**Non-Matriculated Student Policy:** Non-matriculated students are allowed to take up to 9 credits before admission into a degree program must be sought.

**Financing Opportunities:** The duties of a Teaching Assistant typically involve leading recitation sections and/or overseeing laboratories, as well as grading lab assignments, tests, and quizzes, when applicable. After their first year, most students are supported by a research assistantship.

**Admission Requirements and Deadlines**

**Application Deadline:**

- **Fall:** December 15; January 1 international
- **Spring:** September 15; August 1 international

For Fall admissions, priority is given to applications submitted by December 15. Applications submitted after December 15 will be
considered on a case-by-case basis for admissions and financial assistance.

Applications for Spring admission should be received by September 15. Note, however, that Spring admission is rare as coursework is designed to start in the Fall.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from faculty or people in industry who are familiar with the academic and/or research aptitude of the candidate.

Bachelor’s Degree in Discipline/Related Discipline: A baccalaureate degree is required. Typically, the undergraduate degree has been earned in Chemistry, Biochemistry, or a related field.

Statement of Goals: Include your specific interest in Temple's program; your research goals; your future career goals; and your academic and research achievements.

Standardized Test Scores:
GRE: Required. If the applicant's GPA is below 3.25, s/he can be considered for appointment as a Teaching Assistant if her/his percentile scores on the verbal and quantitative portions of the GRE sum to at least 100%.

TOEFL: 88 iBT or 575 PBT minimum. Regardless of score, all international students are required to take a SPEAK test upon arrival at Temple.

Resume: Current resume required.

Transfer Credit: All graduate credits earned by a student prior to matriculation in the Chemistry graduate program are subject to evaluation and approval by the Chemistry Graduate Committee. A “Request for Transfer of Graduate Credit” form, found in TUportal under the Tools tab within “University Forms,” must be completed. It must be supplemented with an official transcript, sent directly by the Registrar of the institution where the credits were earned. All transfer credits must be “B” or higher and must be from an accredited institution. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

Thesis Track

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 9996</td>
<td>Master's Thesis Research</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Total Credit Hours</td>
<td>30</td>
</tr>
</tbody>
</table>


Culminating Events:

Thesis:
The M.S. thesis is the culminating event for the Thesis Track. The thesis should be an original piece of research. Often, but not always, the research described in the M.S. thesis can be published in a peer-reviewed journal. The student coordinates the time for the defense with her/his Graduate Advisory Committee, which is responsible for evaluating the thesis and its defense. No thesis should go to defense unless it is ready for public scrutiny.

Master's Examination:
The master's examination is usually the last requirement to be fulfilled by students in the Coursework Track. Its purpose is to demonstrate a breadth and depth of knowledge in the core concepts of Chemistry. The exam is based on the student's major track in Chemistry. Faculty members in the student's track write the questions for the master's exam. The faculty members who write the questions grade the exam. Students schedule the exam through the Graduate Secretary.

Contacts

Program Web Address:
https://chem.cst.temple.edu/graduate

Department Information:
Dept. of Chemistry
Chemistry, Ph.D.

COLLEGE OF SCIENCE AND TECHNOLOGY (https://cst.temple.edu)

Learn more about the Doctor of Philosophy in Chemistry (https://www.temple.edu/academics/degree-programs/chemistry-phd-st-chem-phd).

About the Program

The Chemistry graduate program is designed to provide a solid background in the chosen area of specialization. It emphasizes the acquisition of skills that enable students to gain further knowledge in their research and professional careers. For this reason, the Chemistry graduate degree program is research oriented, and seminar attendance and familiarization with the chemical literature are considered integral. The course requirements are comparatively light, although a wide variety of intermediate and advanced courses in related areas are offered. Students are encouraged to take courses in related areas, such as Biology, Computer Science, and Physics, according to their research interests.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: A Chemical Physics program is offered jointly with the Department of Physics.

Areas of Specialization: The Department of Chemistry offers programs leading to the M.A. and Ph.D. degrees in Analytical Chemistry, Biochemistry, Inorganic Chemistry, Organic Chemistry, and Physical Chemistry. Areas of specialization include environmental chemistry, materials and polymers, medicinal, nanoscience, photonics, and surface science.

Job Prospects: The majority of students find employment in the chemical industry. Some go on to academic positions or positions in government laboratories.

Non-Matriculated Student Policy: Non-matriculated students are allowed to take up to 9 credits before admission into a degree program must be sought.

Financing Opportunities: The duties of a Teaching Assistant typically involve leading recitation sections and/or overseeing laboratories, as well as grading lab assignments, tests, and quizzes, when applicable. After their first year, most students are supported by a research assistantship.

Admission Requirements and Deadlines

Application Deadline:

Fall: December 15; January 1 international
Spring: September 15; August 1 international

For Fall admissions, priority will be given to applications submitted by December 15. Applications submitted after December 15 will be considered on a case-by-case basis for admissions and financial assistance.

Applications for Spring admission should be received by September 15. Note, however, that Spring admission is rare as coursework is designed to start in the Fall.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from faculty or people in industry who are familiar with the academic and/or research aptitude of the candidate.

Master's Degree in Discipline/Related Discipline: A master's degree is not required for admission into the Ph.D. program.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree is required. Typically, the undergraduate degree has been earned in Chemistry, Biochemistry, or a related field.

Statement of Goals: Include your specific interest in Temple's program; your research goals; your future career goals; and your academic and research achievements.

Standardized Test Scores:

GRE: Required. If the applicant's GPA is below 3.25, s/he can be considered for appointment as a Teaching Assistant if her/his percentile scores on the verbal and quantitative portions of the GRE sum to at least 100%.

TOEFL: 88 iBT or 575 PBT minimum. Regardless of score, all international students are required to take a SPEAK test upon arrival at Temple.

Resume: Current resume required.
Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 36

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 8985</td>
<td>Teaching in Higher Ed:Phys Sci 1</td>
<td>9</td>
</tr>
<tr>
<td>CHEM 9900</td>
<td>Seminar</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Chemistry Electives</td>
<td>9</td>
</tr>
<tr>
<td>Research Courses, including CHEM 9994 and CHEM 9998</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>CHEM 9999</td>
<td>Dissertation Research</td>
<td>4</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td></td>
<td>36</td>
</tr>
</tbody>
</table>

1 Areas of study include Analytical Chemistry, Biochemistry, Inorganic Chemistry, Organic Chemistry, and Physical Chemistry. See the course grid below for the core courses offered in each area.

2 Students seeking a career in an academic setting are encouraged to take CHEM 8985 for three credits so they can earn the Teaching Certificate in Higher Education (https://teaching.temple.edu/teaching-higher-education-certificate-teachers-and-professionals) offered by the Center for the Advancement of Teaching at Temple University. Those who choose this option take two fewer credits of CHEM 9994.

Core Courses by Area of Study

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Analytical Chemistry</td>
<td></td>
</tr>
<tr>
<td>CHEM 5305</td>
<td>Chemical Kinetics</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Select two courses from the following:</td>
<td></td>
</tr>
<tr>
<td>CHEM 5201</td>
<td>Physical Methods in Organic Chemistry</td>
<td></td>
</tr>
<tr>
<td>CHEM 8310</td>
<td>Special Topics in Analytical Chemistry (Mass Spectroscopy)</td>
<td></td>
</tr>
<tr>
<td>CHEM 8601</td>
<td>Analytical Separations</td>
<td></td>
</tr>
<tr>
<td>EES 5625</td>
<td>Electron Optical Techniques</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Biochemistry</td>
<td>9</td>
</tr>
<tr>
<td>CHEM 5401</td>
<td>Biochemistry I</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select two courses from the following:</td>
<td></td>
</tr>
<tr>
<td>BCMS 5003</td>
<td>Fundamentals of Biochemistry</td>
<td></td>
</tr>
<tr>
<td>or MEDS 5003</td>
<td>Fundamentals of Biochem</td>
<td></td>
</tr>
<tr>
<td>BMSC 8702</td>
<td>Enzymes and Proteins</td>
<td></td>
</tr>
<tr>
<td>CHEM 8400</td>
<td>Special Topics in Biochemistry (Nucleic Acids)</td>
<td></td>
</tr>
<tr>
<td>CHEM 8401</td>
<td>Bioinorganic Chemistry</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inorganic Chemistry</td>
<td>9</td>
</tr>
<tr>
<td>CHEM 5001</td>
<td>Advanced Inorganic Chemistry I</td>
<td></td>
</tr>
<tr>
<td>CHEM 5201</td>
<td>Physical Methods in Organic Chemistry</td>
<td></td>
</tr>
<tr>
<td>CHEM 8401</td>
<td>Bioinorganic Chemistry</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Organic Chemistry</td>
<td>9</td>
</tr>
<tr>
<td>CHEM 5201</td>
<td>Physical Methods in Organic Chemistry</td>
<td></td>
</tr>
</tbody>
</table>
Doctoral Advisory Committee and at least one additional Graduate Faculty member from outside the Chemistry Department. The Outside Examiner should be identified no later than the beginning of the academic term in which the student will defend the dissertation. The Dissertation Examining Committee evaluates the student’s ability to express verbally her/his research question, methodological approach, primary findings, and implications. The Committee votes to pass or fail the dissertation and the defense.

If a student needs to change a member of a Committee, the new member must be approved by the department’s Graduate Committee and registered with the Graduate Secretary and the Graduate School.

Students who are preparing to defend their dissertation should confirm a time and date with their Dissertation Examining Committee and register with the Graduate Secretary at least 15 days before the defense is to be scheduled. The Graduate Secretary arranges the time, date, and room within two working days, and forwards to the student the appropriate forms. After the time, date, and room have been arranged for the defense, the student is required to send the Graduate School a completed “Announcement of Dissertation Defense” form, found in TUportal under the Tools tab within “University Forms,” at least 10 days before the defense. The student posts flyers announcing the defense.

Contacts

Program Web Address: https://chem.cst.temple.edu/graduate

Department Information:
Dept. of Chemistry
130 Beury Hall
1901 N. 13th Street
Philadelphia, PA 19122-6014
chemgrad@temple.edu
215-204-7118

Submission Address for Application Materials:
https://apply.temple.edu/CST/

Department Contacts:
Admissions:
Graduate Secretary
chemgrad@temple.edu
215-204-1980

Program Coordinator:
Dr. Rodrigo Andrade
Graduate Chairperson
randrade@temple.edu
215-204-7155

Chairperson:
Dr. Daniel R. Strongin
dstrongi@temple.edu
215-204-7119

Computational Data Science, M.S.

COLLEGE OF SCIENCE AND TECHNOLOGY (https://cst.temple.edu)

Learn more about the Master of Science in Computational Data Science (https://www.temple.edu/academics/degree-programs/computational-data-science-ms-st-cds-ms).

About the Program

The M.S. in Computational Data Science is designed for students interested in developing expertise in data science with a specialization in computational analytics. The goal is to enable students to analyze large quantities of data to discover new knowledge and facilitate decision making. To accomplish this, the program provides students with a strong foundation in big data management and analysis; algorithmic, computational, and statistical thinking; and an understanding of computer systems. Data science is a multifaceted, interdisciplinary discipline that employs techniques and theories drawn from the broad areas of computer and information science, mathematics, and statistics, and applies them to a wide range of data-rich domains such as biomedical science, business, education, engineering, geoscience, physical science, and social science.

Time Limit for Degree Completion: 5 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered after 4:30 p.m. The degree program can be completed on a full- or part-time basis.

Areas of Specialization: Research interests of faculty include:

- Analysis of algorithms
- Artificial intelligence
- Communication and networks
- Computer architecture
- Data analytics
- Digital forensics
- Expert systems
- Flexible and intelligent manufacturing systems
- Graphics
- High-performance computing
- Information security and assurance
- Intelligent CAI systems
- Management information and database systems
- Natural language processing
- Network security
- Parallel and distributive processing and operating systems
- Programming languages
- Sensory and image processing
- Software engineering
- Theory of automata and computation
- Wired and wireless networks

Job Prospects: Graduates gain the necessary skills to find positions in the data science field requiring a mix of data analysis skills, the ability to deal with large quantities of data, and a strong foundation in computer science. Graduates are also prepared to undertake doctoral studies,
either to deepen their overall data science expertise or learn how to better use their analytics skills in a particular data-rich domain.

Non-Matriculated Student Policy: Non-matriculated students are permitted to take a maximum of two graduate-level CIS courses.

Financing Opportunities: Assistantships provide a stipend and full-time tuition to qualified students, but are typically reserved for doctoral students.

Admission Requirements and Deadlines

Application Deadline:

Fall: December 15
Spring: August 1

Applications are reviewed as they are received and can sometimes be considered after the deadline.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from Computer Science faculty and professionals.

Coursework Required for Admission Consideration: A minimum of one year of programming and data structures using the C++ or Java programming language and one year of theoretical calculus are required. This includes coursework equivalent to CIS 1068 Program Design and Abstraction, CIS 2168 Data Structures, MATH 1041 Calculus I, and MATH 1042 Calculus II.

Bachelor’s Degree in Discipline/Related Discipline: A baccalaureate degree in Computer Science is required. If the applicant has insufficient undergraduate coursework in Computer Science, s/he will need to take undergraduate courses to address any deficiencies. Students without a Computer Science degree are typically required to take the following courses, which cannot be counted for credit toward the M.S. degree:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 2107</td>
<td>Computer Systems and Low-Level Programming</td>
<td>4</td>
</tr>
<tr>
<td>CIS 2166</td>
<td>Mathematical Concepts in Computing II</td>
<td>4</td>
</tr>
<tr>
<td>CIS 2168</td>
<td>Data Structures</td>
<td>4</td>
</tr>
<tr>
<td>CIS 3207</td>
<td>Introduction to Systems Programming and Operating Systems</td>
<td>3-4</td>
</tr>
<tr>
<td>or CIS 5012</td>
<td>System Software and Operating Systems</td>
<td></td>
</tr>
<tr>
<td>CIS 3223</td>
<td>Data Structures and Algorithms</td>
<td>3</td>
</tr>
<tr>
<td>or CIS 5011</td>
<td>Programming and Data Structure</td>
<td></td>
</tr>
</tbody>
</table>

Statement of Goals: Approximately 500 to 1,000 words include your specific interest in Temple’s program, your research goals, your future career goals, and your academic and research achievements.

Standardized Test Scores:

GRE: Required. Scores should be in the 75th percentile on the quantitative section and 25th percentile on the verbal section. Most students submit scores far above the minimums.

For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:

TOEFL: 85 iBT or 563 PBT minimum
IELTS: 7.0 minimum
PTE Academic: 58 minimum

Resume: Current resume required.

Transfer Credit: Graduate-level Computer Science coursework obtained no more than five years prior to the student’s matriculation in the graduate program may be transferred into the Computational Data Science M.S. program. The student must have earned an “A” in the course, and must submit a rationale for applying the credits to the current graduate program. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
</table>

Core Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 5511</td>
<td>Programming Techniques</td>
<td>3</td>
</tr>
<tr>
<td>CIS 5515</td>
<td>Design and Analysis of Algorithms</td>
<td>3</td>
</tr>
<tr>
<td>CIS 5526</td>
<td>Machine Learning</td>
<td>3</td>
</tr>
<tr>
<td>Select one course from the following:</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>CIS 5512</td>
<td>Operating Systems</td>
<td></td>
</tr>
<tr>
<td>CIS 5516</td>
<td>Principles of Data Management</td>
<td></td>
</tr>
<tr>
<td>CIS 5642</td>
<td>Computer Architecture</td>
<td></td>
</tr>
</tbody>
</table>

Electives

Select at most three Big Data courses from the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 5512</td>
<td>Operating Systems</td>
<td>1</td>
</tr>
<tr>
<td>CIS 5516</td>
<td>Principles of Data Management</td>
<td>1</td>
</tr>
<tr>
<td>CIS 5517</td>
<td>Data-Intensive and Cloud Computing</td>
<td>2</td>
</tr>
<tr>
<td>CIS 5590</td>
<td>Topics in Computer Science</td>
<td>2</td>
</tr>
<tr>
<td>CIS 5642</td>
<td>Computer Architecture</td>
<td>1</td>
</tr>
<tr>
<td>CIS 5643</td>
<td>Emerging Storage Systems and Technologies</td>
<td></td>
</tr>
<tr>
<td>CIS 5644</td>
<td>Distributed Systems</td>
<td></td>
</tr>
<tr>
<td>CIS 9665</td>
<td>Advanced Topics in Data Base Systems</td>
<td></td>
</tr>
</tbody>
</table>

Select at most three Data Analysis courses from the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 5523</td>
<td>Knowledge Discovery and Data Mining</td>
<td>2</td>
</tr>
<tr>
<td>CIS 5524</td>
<td>Analysis and Modeling of Social and Information Networks</td>
<td>2</td>
</tr>
</tbody>
</table>

Select at most two Statistics and domain-related courses

Select at most one CIS course numbered less than 5500

Select at most three credits of Independent Study:
CIS 9282  Independent Study  

Capstone Course
CIS 9995  Capstone Project  3

Total Credit Hours  30

1  May be selected as an elective if not taken as a core course above.
2  Requires approval from the student’s advisor.

Culminating Events: Students complete a capstone project in data science as the culminating event. CIS 9995 is taken for 3 credits under the close supervision of CIS Graduate Faculty.

Contacts

Program Web Address:
https://cis.temple.edu/MSDS

Department Information:
Dept. of Computer and Information Sciences
313 Science and Education Research Center
1925 N. 12th Street
Philadelphia, PA 19122-1801
cisadmit@temple.edu
215-204-8450

Submission Address for Application Materials:
https://apply.temple.edu/CST/

Department Contacts:

Admissions:
Graduate Administrative Coordinator
cisadmit@temple.edu
215-204-8450

Graduate Advisor:
Tony Hughes
anthony.hughes@temple.edu
215-204-7910

Graduate Chairperson:
Eduard Dragut
edragut@temple.edu
215-204-0521

Department Chairperson:
Jamie Payton
jamie.payton@temple.edu
215-204-8245

Computer and Information Science, Ph.D.

COLLEGE OF SCIENCE AND TECHNOLOGY (https://cst.temple.edu)


About the Program

The Computer and Information Science Ph.D. program prepares a student to undertake independent research leading to science and engineering advances in computer and information sciences. The program is structured around the Ph.D. dissertation, with coursework and seminars designed to attain the requisite quality of the dissertation. An important criterion for the dissertation is that it be publishable in a recognized journal and presentable at international conferences.

Time Limit for Degree Completion:  7 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered after 4:30 p.m. The degree program can be completed on a full- or part-time basis.

Areas of Specialization: The Ph.D. program focuses on four research tracks:

1. Artificial Intelligence and Applications, which is concerned with systems that exhibit intelligent behavior;
2. Computer and Network Systems, which covers systems programming, operating systems, and system architectures, including networks and distributed systems;
3. Information Systems, which focuses on systems that provide information to improve the performance of organizations; and
4. Software Systems, which is dedicated to the creation of software and its associated methodologies.

Job Prospects: Graduates typically find employment in universities, industry, or government agencies.

Non-Matriculated Student Policy: Non-matriculated students are permitted to take a maximum of two graduate-level CIS courses.

Financing Opportunities: Teaching Assistants teach two undergraduate laboratory sections each term under the direction of a faculty lecturer. Assistantships provide a stipend and full-time tuition.

Admission Requirements and Deadlines

Application Deadline:
Fall: December 15
Spring: August 1

Applications are reviewed as they are received. Late applications will be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from Computer Science faculty and professionals.

Coursework Required for Admission Consideration: The applicant is required to have a solid background in Computer and Information Science and related disciplines. In addition, acceptance by a Ph.D. Graduate Faculty member in at least one open track is required. To find a faculty advisor, prospective students should contact Graduate Faculty
whose research interests are similar to their own. The list of faculty can be found at https://cis.temple.edu/people/faculty.

**Master’s Degree in Discipline/Related Discipline:** A master's degree is not required.

**Bachelor's Degree in Discipline/Related Discipline:** A baccalaureate degree in Computer Science, Information Science, Mathematics, Science, or Engineering is required. The applicant's undergraduate program must include a considerable amount of coursework in Computer and Information Science.

**Statement of Goals:** Approximately 500 to 1,000 words include your specific interest in Temple’s program; your research goals; your future career goals; and your academic and research achievements.

**Standardized Test Scores:**
GRE: Required. Scores should minimally be in the 75th percentile on the quantitative section and 25th percentile on the verbal section for a combined total score of at least 297.

For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:
TOEFL: 85 iBT or 563 PBT minimum
IELTS: 7.0 minimum
PTE Academic: 58 minimum

A score of 45 or greater on the Test of Spoken English (TSE) or a score of 28 or greater on the TOEFL iBT Speaking section is required for international applicants who wish to be considered for a Teaching Assistantship.

**Resume:** Current resume required.

**Advanced Standing:** Advanced standing credit is determined by the CIS Graduate Committee. Requests for, and decisions on, advanced standing are normally not made until after the student has satisfactorily completed the CIS Ph.D. Qualifying Examination and formed a Doctoral Advisory Committee. The maximum number of advanced standing credits awarded is 24.

**Program Requirements**

**General Program Requirements:**
*Number of Credits Required Beyond the Baccalaureate: 42*

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 9182</td>
<td>Independent Study</td>
<td>12</td>
</tr>
<tr>
<td>or CIS 9282</td>
<td>Independent Study</td>
<td></td>
</tr>
</tbody>
</table>

**Track-Specific Courses**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 9994</td>
<td>Preliminary Examination Preparation</td>
<td></td>
</tr>
<tr>
<td>CIS 9998</td>
<td>Pre-Dissertation Research / Elevation to Candidacy</td>
<td></td>
</tr>
<tr>
<td>CIS 9999</td>
<td>Dissertation Research</td>
<td></td>
</tr>
</tbody>
</table>

**Non-Didactic Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 9994</td>
<td>Preliminary Examination Preparation</td>
<td></td>
</tr>
<tr>
<td>CIS 9998</td>
<td>Pre-Dissertation Research / Elevation to Candidacy</td>
<td></td>
</tr>
<tr>
<td>CIS 9999</td>
<td>Dissertation Research</td>
<td></td>
</tr>
</tbody>
</table>

**Total Credit Hours:** 42

---

1 Required and elective courses are identified in the course lists below for each of the four tracks: Artificial Intelligence and Applications, Computer and Network Systems, Information Systems, and Software Systems.

**Artificial Intelligence and Applications Track**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 5511</td>
<td>Programming Techniques</td>
<td>3</td>
</tr>
<tr>
<td>CIS 5526</td>
<td>Artificial Intelligence</td>
<td>3</td>
</tr>
<tr>
<td>CIS 5603</td>
<td>Artificial Intelligence</td>
<td>3</td>
</tr>
</tbody>
</table>

**Didactic Courses:**

Select five courses from the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 5513</td>
<td>Automata and Formal Languages</td>
<td></td>
</tr>
<tr>
<td>CIS 5515</td>
<td>Design and Analysis of Algorithms</td>
<td></td>
</tr>
<tr>
<td>CIS 5523</td>
<td>Knowledge Discovery and Data Mining</td>
<td></td>
</tr>
<tr>
<td>CIS 5525</td>
<td>Neural Computation</td>
<td></td>
</tr>
<tr>
<td>CIS 5527</td>
<td>Data Warehousing, Filtering and Mining</td>
<td></td>
</tr>
<tr>
<td>CIS 5538</td>
<td>Text Mining and Language Processing</td>
<td></td>
</tr>
<tr>
<td>CIS 5543</td>
<td>Computer Vision</td>
<td></td>
</tr>
<tr>
<td>CIS 5617</td>
<td>Computer Networking and Communication</td>
<td></td>
</tr>
<tr>
<td>CIS 9618</td>
<td>Web Applications Development</td>
<td></td>
</tr>
<tr>
<td>CIS 9665</td>
<td>Advanced Topics in Data Base Systems</td>
<td></td>
</tr>
</tbody>
</table>

**Total Credit Hours:** 24

**Computer and Network Systems Track**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 5511</td>
<td>Programming Techniques</td>
<td></td>
</tr>
<tr>
<td>CIS 5512</td>
<td>Operating Systems</td>
<td></td>
</tr>
<tr>
<td>CIS 5513</td>
<td>Automata and Formal Languages</td>
<td></td>
</tr>
<tr>
<td>CIS 5617</td>
<td>Computer Networking and Communication</td>
<td></td>
</tr>
<tr>
<td>CIS 5642</td>
<td>Computer Architecture</td>
<td></td>
</tr>
</tbody>
</table>

**Didactic Courses:**

Select at most six courses from the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 5515</td>
<td>Design and Analysis of Algorithms</td>
<td></td>
</tr>
<tr>
<td>CIS 5523</td>
<td>Knowledge Discovery and Data Mining</td>
<td></td>
</tr>
<tr>
<td>CIS 5526</td>
<td>Machine Learning</td>
<td></td>
</tr>
<tr>
<td>CIS 5603</td>
<td>Artificial Intelligence</td>
<td></td>
</tr>
<tr>
<td>CIS 5636</td>
<td>Ad Hoc Networks</td>
<td></td>
</tr>
<tr>
<td>CIS 5637</td>
<td>Network &amp; Information Security</td>
<td></td>
</tr>
<tr>
<td>CIS 5639</td>
<td>Wireless Network and Communication</td>
<td></td>
</tr>
<tr>
<td>CIS 5644</td>
<td>Distributed Systems</td>
<td></td>
</tr>
<tr>
<td>CIS 9618</td>
<td>Web Applications Development</td>
<td></td>
</tr>
<tr>
<td>CIS 9665</td>
<td>Advanced Topics in Data Base Systems</td>
<td></td>
</tr>
<tr>
<td>CIS 9666</td>
<td>Advanced Networks and Client-Server Computing</td>
<td></td>
</tr>
</tbody>
</table>
Information Systems Track

Select a minimum of one and up to three theory courses from the following:
- CIS 5511 Programming Techniques
- CIS 5515 Design and Analysis of Algorithms
- STAT 8003 Statistical Methods I

Select a minimum of one and up to three systems courses from the following:
- CIS 5512 Operating Systems
- CIS 5516 Principles of Data Management
- CIS 5617 Computer Networking and Communication
- CIS 5644 Distributed Systems
- CIS 9666 Advanced Networks and Client-Server Computing

Select a minimum of two and up to four track-specific courses from the following:
- CIS 5525 Neural Computation
- CIS 5526 Machine Learning
- CIS 5527 Data Warehousing, Filtering and Mining
- CIS 5603 Artificial Intelligence
- CIS 9590 Seminar in Advanced Topics in Computer Science
- CIS 9618 Web Applications Development
- CIS 9665 Advanced Topics in Data Base Systems
- CIS 9668 Design and Development of E-Commerce Systems

Total Credit Hours: 24

Software Systems Track

Core Courses
- CIS 5511 Programming Techniques 3
- CIS 5512 Operating Systems 3
- CIS 5513 Automata and Formal Languages 3
- CIS 5515 Design and Analysis of Algorithms 3
- CIS 5516 Principles of Data Management 3
- CIS 5617 Computer Networking and Communication 3
- CIS 9618 Web Applications Development 3

Elective 1 3

Total Credit Hours: 24

1 Elective requires approval of the Software Systems Track Chair.

Additional Requirements:

Ph.D. Qualifying Examination:
The Qualifying Examination tests the student on the fundamentals of Computer and Information Science and the basic body of knowledge in a track. It consists of a written exam on theory and algorithms, systems, and track-specific material. The Qualifying Exam is offered twice a year, usually in late January and late June.

Culminating Events:

Preliminary Examinations:
The goal of the preliminary examinations is to test the research skills and knowledge of the student and the appropriateness and feasibility of the proposed research. The exams are completed in two stages:

- Prelim I consists of written and oral components testing advanced track knowledge and in-depth knowledge of the research area. It includes a literature review of the area. This preliminary exam is used to determine whether the student needs to take additional courses in order to support research in the chosen area. Prelim I is open only to the Doctoral Advisory Committee and members of the department. It is to be taken within one year of passing the Ph.D. Qualifying Examination.
- Prelim II consists of written and oral components to assess the appropriateness of the research, including approach and methodology. It is designed to ensure that the selected research problem is of reasonable scope and significance and that the proposed dissertation is feasible. The written portion of Prelim II should be of sufficient quality to be publishable as a department technical report. This exam is open to the public.

The Doctoral Advisory Committee evaluates the preliminary examinations. Each member votes to pass or fail the student. In order to pass, a majority of the committee members must agree that the exam has been satisfactorily completed. The successful completion of the preliminary examinations produces a written understanding among the student, faculty advisor, and Doctoral Advisory Committee, specifying the work to be done to obtain final approval of the dissertation.

Students who are preparing to do their preliminary examinations should confirm a time and date with the Chair of their Doctoral Advisory Committee and register with the Administrative Coordinator one month prior to the date. The student and Chair receive confirmation of the time, date, and room of the examination.

Dissertation Proposal:
The dissertation proposal demonstrates the student's knowledge of and ability to conduct the proposed research. The proposal should consist of:

1. the context and background surrounding a particular research problem;
2. an exhaustive survey and review of literature related to the problem; and
3. a detailed methodological plan for investigating the problem.

The proposal should be finished and approved no more than one year after completing coursework. Upon approval, a timeline for completing the investigation and writing process are established.

Dissertation:
The doctoral dissertation is an original empirical study that makes a significant contribution to the field of Computer and Information Science. It should expand the existing knowledge and demonstrate the student's knowledge of research methods and a mastery of her/his primary area of interest. Dissertations should be rigorously investigated; uphold the ethics and standards of the Computer and Information Science field; demonstrate an understanding of the relationship between the primary area of interest and the broader field of Computer and Information Science; and be prepared for publication in a professional journal.

The Doctoral Advisory Committee is formed to oversee the student's doctoral research and is comprised of at least three Graduate Faculty
members. Two members, including the Chair, must be from the Department of Computer and Information Sciences. Committee compositions must be approved by the CIS Graduate Committee. The Chair is responsible for overseeing and guiding the student's progress, coordinating the responses of the committee members, and informing the student of her/his academic progress.

The Dissertation Examining Committee evaluates the student's dissertation and oral defense. This committee is comprised of the Doctoral Advisory Committee and at least one additional Graduate Faculty member from outside the Department of Computer and Information Sciences. The Outside Examiner should be identified no later than the beginning of the term in which the student will defend the dissertation. The committee evaluates the student's ability to express verbally her/his research question, methodological approach, primary findings, and implications. The committee votes to pass or fail the dissertation and the defense at the conclusion of the public presentation.

If a student needs to change a member of a committee, the new member must be approved by the CIS Graduate Committee and registered with the Administrative Coordinator and the Graduate School.

Students who are preparing to defend their dissertation should confirm a time and date with their Doctoral Advisory Committee and register with the Administrative Coordinator at least 30 days before the defense is to be scheduled. The student and Chair receive confirmation of the time, date, and room for the examination.

The Administrative Coordinator sends the Graduate School a completed "Announcement of Dissertation Defense" form, found in TUportal under the Tools tab within "University Forms," at least 10 days before the defense. The department posts flyers announcing the defense.

Contacts

Program Web Address:
https://cis.temple.edu/programs/doctor

Department Information:
Dept. of Computer and Information Sciences
313 Science and Education Research Center
1925 N. 12th Street
Philadelphia, PA 19122-1801
cisadmit@temple.edu
215-204-8450

Submission Address for Application Materials:
https://apply.temple.edu/CST/

Department Contacts:
Admissions:
Graduate Administrative Coordinator
cisadmit@temple.edu
215-204-8450

Artificial Intelligence and Applications Track Chair:
Longin Jan Latecki
latecki@temple.edu

Information Systems Track Chair:
Zoran Obadovic
obradovic@temple.edu

Graduate Chairperson:
Eduard Dragut
edragut@temple.edu
215-204-0521

Department Chairperson:
Jamie Payton
jamie.payton@temple.edu
215-204-8245

Computer Science, M.S.

COLLEGE OF SCIENCE AND TECHNOLOGY (https://cst.temple.edu)

Learn more about the Master of Science in Computer Science (https://www.temple.edu/academics/degree-programs/computer-science-ms-stocsi-ms).

About the Program

The M.S. in Computer Science emphasizes a general approach to the study of computing, including courses in artificial intelligence, collaborative systems, computer architecture, database systems, graphics and image processing, networking and communications, operating systems, software engineering, and theoretical areas. The curriculum is not oriented toward any specific applications area of computing but emphasizes general graduate-level studies in computing, preparing students for careers in systems analysis, teaching, and research.

Time Limit for Degree Completion: 5 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered after 4:30 p.m. The degree program can be completed on a full- or part-time basis.

Areas of Specialization: Research interests of faculty include:

- Analysis of algorithms
- Artificial intelligence
- Communication and networks
- Computer architecture
- Data analytics
- Digital forensics
- Expert systems
- Flexible and intelligent manufacturing systems
- Graphics
- High-performance computing
- Information security and assurance
- Intelligent CAI systems
- Management information and database systems
- Natural language processing
- Network security
- Parallel and distributive processing and operating systems
- Programming languages
- Sensory and image processing
- Software engineering
• Theory of automata and computation
• Wired and wireless networks

Job Prospects: Graduates often find employment as data analysis consultants, product designers, researchers, and software developers. Alternatively, many become involved in the design and implementation of new applications software or the planning and evaluation of computer-based systems. Prospective employers include the government or industrial firms that utilize computers for research and/or production purposes.

Non-Matriculated Student Policy: Non-matriculated students are permitted to take a maximum of two graduate-level CIS courses.

Financing Opportunities: Assistantships provide a stipend and full-time tuition to qualified students, but are typically reserved for doctoral students.

Admission Requirements and Deadlines

Application Deadline:
Fall: December 15
Spring: August 1

Applications are reviewed as they are received and can sometimes be considered after the deadline.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from Computer Science faculty and professionals.

Coursework Required for Admission Consideration: A minimum of one year of programming and data structures using the C++ or Java programming language and one year of theoretical calculus are required. This includes coursework equivalent to CIS 1068 Program Design and Abstraction, CIS 2168 Data Structures, MATH 1041 Calculus I, and MATH 1042 Calculus II.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree in Computer Science is required. If the applicant has insufficient undergraduate coursework in Computer Science, s/he will need to take undergraduate courses to address any deficiencies. Students without a Computer Science degree are typically required to take the following courses, which cannot be counted for credit toward the M.S. degree:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 2107</td>
<td>Computer Systems and Low-Level Programming</td>
<td>4</td>
</tr>
<tr>
<td>CIS 2166</td>
<td>Mathematical Concepts in Computing II</td>
<td>4</td>
</tr>
<tr>
<td>CIS 2168</td>
<td>Data Structures</td>
<td>4</td>
</tr>
<tr>
<td>CIS 3207</td>
<td>Introduction to Systems Programming and Operating Systems</td>
<td>3-4</td>
</tr>
<tr>
<td>or CIS 5012</td>
<td>System Software and Operating Systems</td>
<td></td>
</tr>
<tr>
<td>CIS 3223</td>
<td>Data Structures and Algorithms</td>
<td>3</td>
</tr>
<tr>
<td>or CIS 5011</td>
<td>Programming and Data Structure</td>
<td></td>
</tr>
</tbody>
</table>

Statement of Goals: Approximately 500 to 1,000 words include your specific interest in Temple's program, your research goals, your future career goals, and your academic and research achievements.

Standardized Test Scores:
GRE: Required. Scores should be in the 75th percentile on the quantitative section and 25th percentile on the verbal section. Most students submit scores far above the minimums.

For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:
TOEFL: 85 iBT or 563 PBT minimum
IELTS: 7.0 minimum
PTE Academic: 58 minimum

Resume: Current resume required.

Transfer Credit: Graduate-level Computer Science coursework obtained no more than five years prior to the student’s matriculation in the graduate program may be transferred into the Computer Science M.S. program. The student must have earned an “A” in the course, and must submit a rationale for applying the credits to the current graduate program. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 5511</td>
<td>Programming Techniques</td>
<td>3</td>
</tr>
<tr>
<td>CIS 5512</td>
<td>Operating Systems</td>
<td>3</td>
</tr>
<tr>
<td>CIS 5515</td>
<td>Design and Analysis of Algorithms</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>18</td>
</tr>
</tbody>
</table>

Project Course

CIS 9991 Master's Research Projects 3

Total Credit Hours 30

Culminating Events: Students complete a master’s research project as the culminating event. CIS 9991 Master’s Research Projects is taken for 3 credits under the close supervision of CIS Graduate Faculty.

Contacts

Program Web Address:
https://cis.temple.edu/programs/cis

Department Information:
Dept. of Computer and Information Sciences
313 Science and Education Research Center
1925 N. 12th Street
Philadelphia, PA 19122-1801
cisadmit@temple.edu
215-204-8450
Submission Address for Application Materials:
https://apply.temple.edu/CST/

Department Contacts:

Admissions:
Graduate Administrative Coordinator
cisadmit@temple.edu
215-204-8450

Graduate Advisor:
Tony Hughes
anthony.hughes@temple.edu
215-204-7910

Graduate Chairperson:
Eduard Dragut
edragut@temple.edu
215-204-0521

Department Chairperson:
Jamie Payton
jamie.payton@temple.edu
215-204-8245

Cyber Defense and Information Assurance, P.S.M.

COLLEGE OF SCIENCE AND TECHNOLOGY (https://cst.temple.edu)


About the Program

As our physical and digital worlds become more deeply interwoven, a web of interdependence is increasingly fading away the distinction between physical and cyberspace infrastructures. One consequence is that citizens are rendered extremely vulnerable to threats against our cyberinfrastructure by cybercriminals who can inflict crippling blows to pockets of society or even the entire nation. With projections that the dearth of a global information security workforce will reach a staggering 1.5 million by 2021, the federal government has expressed its support to meet this urgent need.

In designing the Professional Science Master's (P.S.M.) program in Cyber Defense and Information Assurance (CyberDIA), the dynamic and cross-cutting nature of the current and continuously evolving cyberspace and the barrage of ever-increasing and never-ceasing threats it faces was addressed. The program is designed for aspiring technical professionals at all career levels — entry-level, mid-career, and senior executives — who want to equip themselves with skills necessary to protect their organization and the nation from increasing cyberthreats. The multidisciplinary program design borrows knowledge, skills, and expertise from different academic disciplines, including business, computer and information sciences, electrical and computer engineering, and law. The key focus is on a holistic cybersecurity framework, i.e., one that is built around the core principles of preventive, detective, and corrective security mechanisms. While the CyberDIA curriculum is technology intensive, focusing on network security and digital forensics, it also bridges the ever-increasing gap between cybersecurity technology and cybersecurity policies.

Time Limit for Degree Completion: 2 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis. Most of the classes are offered in the evenings or on weekends to enable full-time working professionals to be enrolled in the program. International students are required to register as full-time students.

Interdisciplinary Study: The CyberDIA curriculum addresses four core knowledge areas:

- Technology (60%)
- Laws, regulations, and governance (15%)
- Policies, procedures, and compliance (15%)
- Leadership and ethics (10%)

Accreditation: Temple University is fully accredited by the Middle States Commission on Higher Education.

Job Prospects: Official job placement is not offered, but prospects are excellent given the projected dearth in "Infosec" professionals. Positions include:

- Computer Security Forensic Investigator
- Cybersecurity Systems Engineer
- Information Security Officer
- IT Network Security Penetration Tester
- Security Analyst/Cybersecurity Analyst

Licensure: Successful completion of the CyberDIA P.S.M. program equips students with the necessary knowledge, skills, and tools to appear for the following professional certifications:

- Certified Ethical Hacker (CEH) offered by EC-Council
- Certified Information Systems Security Professional (CISSP®) offered by (ISC)²
- Computer Hacking Forensic Investigator (CHFI) offered by EC-Council

Non-Matriculated Student Policy: Non-matriculated students may enroll in a total of three courses (9 credits) with permission of the instructor and the Department of Computer and Information Sciences.

Financing Opportunities: Financial assistance in the form of Research or Teaching Assistantships is not offered.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1; December 15 international
Spring: Open only to non-matriculated students who successfully completed P.S.M. coursework in the Fall term

Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 3

From Whom: Letters should be obtained from college/university faculty or faculty who are familiar with the applicant's competency. If the applicant has an established career in the field, the applicant's immediate supervisor should provide one of the letters.

Coursework Required for Admission Consideration: Applicants should have a strong background in one or more STEM fields: Science, Technology, Engineering, and Mathematics. The following prerequisites must also be met:

• a course in data structures, such as Temple’s CIS 2168, and
• a course in computer architecture, operating systems, and networking, such as Temple’s CIS 2229.

Bachelor’s Degree in Discipline/Related Discipline: The CyberDIA P.S.M. program has been designed for recent graduates and professionals who have a bachelor's degree or equivalent in a STEM field.

Statement of Goals: Approximately 250 to 500 words include your interest in Temple's program, your research goals, and your academic and research achievements.

Standardized Test Scores:
GRE: Required. A combined minimum score of 300 on the quantitative and verbal reasoning sections of the new test is expected.

For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:

TOEFL: 85 iBT or 563 PBT minimum
IELTS: 7.0 minimum
PTE Academic: 53 minimum

Interview: An in-person or SKYPE interview with the Program Director or members of the CyberDIA P.S.M. Steering Committee is required.

Transfer Credit: Graduate credits from an accredited institution may be transferred into the CyberDIA P.S.M. program. The credits must be equivalent to coursework offered by the Department of Computer and Information Sciences at Temple University. A grade of “B” or better must have been earned for the credits to transfer. The CyberDIA P.S.M. Steering Committee makes recommendations to the Department Chair for transferring credit on an individual basis. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 5003</td>
<td>Networking &amp; Operating Systems</td>
<td>3</td>
</tr>
<tr>
<td>CIS 5107</td>
<td>Comp Systems Security &amp; Privacy</td>
<td>3</td>
</tr>
<tr>
<td>CIS 5405</td>
<td>Introduction to Digital Forensics</td>
<td>3</td>
</tr>
<tr>
<td>CIS 5415</td>
<td>Ethical Hacking and Intrusion Forensics</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives 15

Capstone Course
CIS 9995  Capstone Project 3

Total Credit Hours 30

Additional Requirements: All graduate-level courses must be passed with a “B-” or better.

Culminating Events:

Capstone Project:
Each student is given a real security problem. Phase 1 relates to compliance: identifying how the security problem affects the organization and which regulations/standards are to be considered. Phase 2 is the technical piece: identifying network and application vulnerabilities; performing forensics (chain of custody); and documenting findings. In Phase 3, all findings from Phases 1 and 2 are presented to the executive body of the affected organization and the faculty mentor(s).

Contacts

Program Web Address:
https://cis.temple.edu/PSMCyberDefense

Department Information:
Dept. of Computer and Information Sciences
313 Science and Education Research Center
1925 N. 12th Street
Philadelphia, PA 19122-1801
CyberDIA@temple.edu
215-204-8450

Submission Address for Application Materials:
https://apply.temple.edu/CST/

Department Contacts:

Admissions:
Graduate Administrative Coordinator
cisadmit@temple.edu
215-204-8450

Program Director:
Avinash Srinivasan
Associate Professor and Certified Ethical Hacker
avinash@temple.edu
215-204-8450

Graduate Chairperson:
Eduard Dragut
edragut@temple.edu
215-204-0521

Department Chairperson:
Jamie Payton
jamie.payton@temple.edu
215-204-8245

Forensic Chemistry, P.S.M.

COLLEGE OF SCIENCE AND TECHNOLOGY (https://cst.temple.edu)
Learn more about the Professional Science Master's in Forensic Chemistry (https://www.temple.edu/academics/degree-programs/forensic-chemistry-psm-st-fchm-psm).

About the Program
The primary objective of the Forensic Chemistry P.S.M. is for students to develop a portfolio of knowledge and experiences through a strong background in analytical methodologies that will enable them to tackle problems in forensic chemistry, environmental chemistry, and other areas of chemistry. Other objectives include providing:

- a theoretical understanding of major concepts in Forensic Chemistry,
- a range of practical skills in Forensic Chemistry, and
- knowledge and skills applicable to academia, industry, and government.

The goal of the program is the successful placement of graduates into relevant jobs and to enable career advancement for chemists already employed.

The program includes core requirements in current topics in forensic chemistry; applied biopharmaceutics; data analysis; law, ethics, and policy; and toxicology. Attendance is required at annual symposia where leaders in the field of forensic science present on current topics and developments in the field of forensics and forensic chemistry. Many courses in the program are conducted as hands-on training in a modular, forensic chemistry laboratory. An independent project is assigned that will generate knowledge with the goal of developing advanced forensic skills, enabling program graduates to effectively work in and be leaders of the discipline of forensic chemistry. All students are required to complete a forensic chemistry internship.

Time Limit for Degree Completion: 5 years

Campus Location: Main, Ft. Washington, and the Center for Forensic Science Education, Willow Grove, PA

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis. Most of the classes are offered in the evenings or on weekends to enable full-time working professionals to be enrolled in the program. International students are required to register as full-time students.

Interdisciplinary Study: The two-year program consists of courses in forensic and analytical chemistry as well as data analysis, law, and ethics. Student research projects are developed with the cooperation of Temple faculty and members of our External Advisory Board under the guidance of the P.S.M. in Forensic Chemistry Steering Committee.

Accreditation: Temple University is fully accredited by the Middle States Commission on Higher Education.

Job Prospects: Official job placement is not offered, but prospects are good. The program is designed to help recent graduates obtain relevant employment as well as accelerate career advancement and/or allow career shift of currently employed professionals. Graduates of P.S.M. programs are in high demand, which underscores the P.S.M. as an attractive career path for those who do not wish to become academic researchers or pursue a doctorate degree.

Non-Matriculated Student Policy: Non-matriculated students may enroll in a total of three courses (9 credits) with permission of the instructor and the Chemistry Department.

Financing Opportunities: Financial assistance in the form of Research or Teaching Assistantships is not offered at this time.

Admission Requirements and Deadlines
Application Deadline:

Fall: June 15; February 15 international
Spring: September 15

Applications are processed on a continual basis. Ordinarily, the applicant is informed of an admissions decision within three weeks of receipt of all supporting application documents. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 3

From Whom: Letters should be obtained from college/university faculty or faculty who are familiar with the applicant’s competency. If the applicant has an established career in a related field, the applicant’s immediate supervisor should provide one of the letters.

Coursework Required for Admission Consideration: An undergraduate degree in Chemistry or a closely related field is required. Candidates not holding a degree in Chemistry should contact the Program Director for guidance.

Bachelor’s Degree in Discipline/Related Discipline: A baccalaureate degree in Chemistry or a closely related field is required.

Statement of Goals: Approximately 500 to 1,000 words specify your interest in the Forensic Chemistry P.S.M. program, your career goals, and your academic and professional achievements.

Standardized Test Scores:
GRE: Required. A combined minimum percentile of 100% on the quantitative and verbal reasoning sections is expected. A GRE waiver will be considered for those applicants with an exceptional undergraduate GPA.

TOEFL: 85 iBT or 575 PBT minimum

Transfer Credit: Graduate credits from an accredited institution may be transferred into the Forensic Chemistry P.S.M. program. The credits must be equivalent to coursework offered by the Chemistry Department at Temple University. A grade of “B” or better must have been earned for the credits to transfer. The P.S.M. in Forensic Chemistry Steering Committee makes recommendations to the Department Chair for transferring credit on an individual basis. The maximum number of credits a student may transfer is 6.

Program Requirements
General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 32

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 5102</td>
<td>Data Analysis and Evidence</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 5108</td>
<td>Investigative Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>CHEM 8001</td>
<td>Leadership, Law and Ethics in Forensic Science</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 8107</td>
<td>Advanced Forensic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 8310</td>
<td>Special Topics in Analytical Chemistry (two terms/two topics)</td>
<td>6</td>
</tr>
<tr>
<td>CHEM 8601</td>
<td>Analytical Separations</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 9800</td>
<td>Seminar in Forensic Chemistry (two terms)</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 9991</td>
<td>Master's Research Projects</td>
<td>3</td>
</tr>
<tr>
<td>PS 8007</td>
<td>Applied Biopharmaceutics</td>
<td>3</td>
</tr>
<tr>
<td>PS 8111</td>
<td>Introduction to Toxicology</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total Credit Hours</strong></td>
<td><strong>32</strong></td>
</tr>
</tbody>
</table>

**Additional Requirements:**

All graduate-level courses must be passed with a "B-" or better.

Attendance at scheduled departmental colloquia is required.

**Culminating Events:**

**Capstone Project:**

The internship involves a significant project completed in an approved forensic laboratory. As part of the culminating event of the Forensic Chemistry P.S.M., students will present project results at the final Seminar in Forensic Chemistry (CHEM 9800).

**Contacts**

**Program Web Address:**

http://cst.temple.edu/forensicchemistry

**Department Information:**

Dept. of Chemistry  
130 Beury Hall  
1901 N. 13th Street  
Philadelphia, PA 19122-6078  
garry.cole@temple.edu  
215-204-2552

**Submission Address for Application Materials:**

https://apply.temple.edu/CST/

**Department Contacts:**

Program Director:  
Susan Jansen-Varnum, Ph.D.  
susan.varnum@temple.edu

**Geology, M.S.**

[COLLEGE OF SCIENCE AND TECHNOLOGY](https://cst.temple.edu)

Learn more about the Master of Science in Geology [here](https://www.temple.edu/academics/degree-programs/geology-ms-st-geol-ms).

**About the Program**

The Department of Earth and Environmental Science offers a two-year M.S. program that includes graduate courses in Geology, weekly graduate seminars, qualifying exams, and research leading to a master's thesis.

**Time Limit for Degree Completion:** 3 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** Full-time status is expected.

**Areas of Specialization:** Advanced courses and research opportunities are available in:

- Environmental geology, including ecohydrology, energy and land degradation, environmental geophysics, groundwater modeling, ice sheet stability and climate change, Karst hydrology, nanomineralogy, and urban hydrology.
- Geochemistry, including nanomineralogy, paleontology-fossil provenance, planetary geology, and weathering and diagenesis.
- Sedimentary geology and paleontology, including coastal and aeolian dynamics, ichnology, paleontology-fossil provenance, paleopedology and modern soils, planetary geology and impact studies, and Precambrian geology.
- Structural geology, including geothermal energy and geomechanics.

**Job Prospects:** Graduates secure positions in industry, education, and government, and are accepted into doctoral programs.

**Licensure:** Licensure is recommended after three years of on-the-job training. The Pennsylvania Professional Geologist Licensing Examination is administered by the National Association of State Boards of Geology (ASBOG).

**Non-Matriculated Student Policy:** Non-matriculated students are allowed to take up to 9 credits before applying to the program.

**Financing Opportunities:** Students are supported by a combination of Teaching and Research Assistantships, which typically provide a nine-month academic-year stipend and full tuition remission. Summer stipends are also available. Teaching and Research Assistants are expected to devote 20 hours per week to their duties. Teaching Assistants teach labs for non-science and geology majors. The duties for Research Assistants are determined by the primary research advisor. Both Teaching and Research Assistantships are awarded competitively. Funding after two years is not guaranteed.

**Admission Requirements and Deadlines**

**Application Deadline:**  
Fall: February 1

Applications are evaluated together after the deadline has passed. Program admissions are limited and competitive.

APPLY ONLINE to this graduate program.

**Letters of Reference:**

Number Required: 2

From Whom: Letters of recommendation should be obtained from college/university faculty members familiar with the applicant's academic competence.

**Coursework Required for Admission Consideration:** Applicants are required to have taken at least five courses in Geology and one year of college-level Chemistry, Calculus, and either Physics or Biology to prepare for graduate-level classes and instructing undergraduate majors.
Bachelor’s Degree in Discipline/Related Discipline: A baccalaureate degree, whether a B.A. or a B.S., with a major in Geology or a related program in Science or Mathematics is required.

Statement of Goals: Includes your specific interest in Temple’s M.S. program, your research goals, your future career goals, and your academic and research achievements.

Standardized Test Scores:
GRE: Required. Scores are typically in the 50th percentile or higher in the quantitative and verbal areas.

TOEFL: 105 iBT or 620 PBT minimum

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EES 5011</td>
<td>Remote Sensing and GIS</td>
<td>2</td>
</tr>
<tr>
<td>EES 5042</td>
<td>Coastal Processes</td>
<td></td>
</tr>
<tr>
<td>EES 5101</td>
<td>Structural Geology (Graduate)</td>
<td></td>
</tr>
<tr>
<td>EES 5401</td>
<td>Analytical Methods in Mineralogy</td>
<td></td>
</tr>
<tr>
<td>EES 5402</td>
<td>X-ray Crystallography</td>
<td></td>
</tr>
<tr>
<td>EES 5406</td>
<td>Nanoscience and the Environment</td>
<td></td>
</tr>
<tr>
<td>EES 5434</td>
<td>Ecohydrology</td>
<td></td>
</tr>
<tr>
<td>EES 5454</td>
<td>Introduction to Geophysics</td>
<td></td>
</tr>
<tr>
<td>EES 5461</td>
<td>Low-Temperature Geochemistry</td>
<td></td>
</tr>
<tr>
<td>EES 5462</td>
<td>Advanced Low-Temperature Geochemistry</td>
<td></td>
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<tr>
<td>EES 5502</td>
<td>Glaciology</td>
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<tr>
<td>EES 5601</td>
<td>Vertebrate Paleontology and Taphonomy</td>
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<tr>
<td>EES 5625</td>
<td>Electron Optical Techniques</td>
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<tr>
<td>EES 5702</td>
<td>Sedimentary Petrology</td>
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<tr>
<td>EES 5725</td>
<td>Soils and Paleosols</td>
<td></td>
</tr>
<tr>
<td>EES 5801</td>
<td>Quantitative Structural Geo</td>
<td></td>
</tr>
<tr>
<td>EES 5802</td>
<td>Tectonics</td>
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<tr>
<td>EES 5811</td>
<td>Planetary Geology</td>
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<tr>
<td>EES 8000</td>
<td>Geology Seminar</td>
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<tr>
<td>EES 8082</td>
<td>Independent Study Program</td>
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<tr>
<td>EES 8200</td>
<td>Graduate Geology Seminar</td>
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<tr>
<td>EES 8411</td>
<td>Advanced Hydrogeology</td>
<td></td>
</tr>
<tr>
<td>EES 8421</td>
<td>Groundwater Modeling</td>
<td></td>
</tr>
<tr>
<td>EES 9993</td>
<td>Comprehensive Examination Prep</td>
<td></td>
</tr>
<tr>
<td>Research Course</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>EES 9996</td>
<td>Master’s Thesis Research</td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours 30

1 The elective is selected in consultation with an advisor.

Culminating Events:
Comprehensive Examination:

The purpose of the comprehensive examination is to demonstrate breadth and depth of knowledge in the concepts of geological sciences. The exam has written and oral sections. It is taken when the student completes at least 20 credits.

Thesis:
The Department of Earth and Environmental Science requires an original research thesis as the culminating project to earn its master’s degree. The thesis is evaluated for both scientific content and writing style by a committee of two faculty members and the thesis advisor. Students are required to defend their theses publicly to the academic community.

Contacts

Program Web Address:
http://cst.temple.edu/academics/graduate-programs/earth-environmental-science

Department Information:
Dept. of Earth and Environmental Science
326 Beury Hall
1901 N. 13th Street
Philadelphia, PA 19122-6081
ees@temple.edu
215-204-8227

Submission Address for Application Materials:
https://apply.temple.edu/CST/

Department Contacts:

Administrative Assistant:
Shelah Cox
scox@temple.edu
215-204-8227

Admissions:
Dennis O. Terry, Jr., Ph.D.
Graduate Advisor
donerry@temple.edu
215-204-8226

Chairperson:
Nicholas Davatzes, Ph.D.
nicholas.davatzes@temple.edu
215-204-2319

Geoscience, Ph.D.

COLLEGE OF SCIENCE AND TECHNOLOGY (http://cst.temple.edu)


About the Program

The Department of Earth and Environmental Science offers a Ph.D. program that includes graduate courses in the geosciences, weekly graduate seminars, qualifying exams, and research leading to a doctoral dissertation.
Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: Full-time status is expected.

Areas of Specialization: Advanced courses and research opportunities are available in:

- Environmental geology, including ecohydrology, energy and land degradation, environmental geophysics, groundwater modeling, ice sheet stability and climate change, Karst hydrology, nanomineralogy, and urban hydrology.
- Geochemistry, including nanomineralogy, paleontology-fossil provenance, planetary geology, and weathering and diagenesis.
- Sedimentary geology and paleontology, including coastal and aeolian dynamics, ichnology, paleontology-fossil provenance, paleopedology and modern soils, planetary geology and impact studies, and Precambrian geology.
- Structural geology, including geothermal energy and geomechanics.

Job Prospects: Graduates secure positions in academia, industry, and government.

Licensure: For careers in industry, licensure is recommended after three years of on-the-job training. The Pennsylvania Professional Geologist Licensing Examination is administered by the National Association of State Boards of Geology (ASBOG).

Non-Matriculated Student Policy: Doctoral courses are open only to matriculated students.

Financing Opportunities: Students are supported by a combination of Teaching and Research Assistantships, which typically provide a nine-month academic-year stipend and full tuition remission. Summer stipends are also available. Teaching and Research Assistants are expected to devote 20 hours per week to their duties. Teaching Assistants teach introductory geology labs and labs for majors. The duties for Research Assistants are determined by the primary research advisor. Both Teaching and Research Assistantships are awarded competitively. Funding after four years is not guaranteed.

Temple University also offers a limited number of two-year Fellowships to support outstanding doctoral students.

Admission Requirements and Deadlines

Application Deadline:

**Fall:** February 1

Applications are evaluated together after the deadline for submission has passed. Program admissions are limited and competitive. Applicants are expected to contact the faculty in their area of interest prior to submitting an application.

APPLY ONLINE to this graduate program.

Letters of Reference:

**Number Required:** 3

**From Whom:** Letters of recommendation should be obtained from college/university faculty members familiar with the applicant’s academic competence.

Coursework Required for Admission Consideration: Applicants are required to have taken courses in Geology to prepare them for graduate-level classes and instructing undergraduate majors. In addition, at least one year of college-level Chemistry, Calculus, and either Physics or Biology is expected.

Master’s Degree in Discipline/Related Discipline: A master’s degree is recommended, but undergraduate research experience is also considered in evaluating applicants.

Bachelor’s Degree in Discipline/Related Discipline: A baccalaureate degree, whether a B.A. or a B.S., with a major in Geology or a related program in Science or Mathematics is required.

Statement of Goals: Includes your specific interest in Temple’s Geoscience Ph.D. program and the faculty member with whom you would like to work; your research goals; your future career goals; and your academic and research achievements.

Standardized Test Scores:

- **GRE:** Required. Scores above the 50th percentile in the quantitative and verbal sections are expected, but higher scores are more competitive.
- **TOEFL:** 105 iBT or 620 PBT minimum

Writing Sample: Applicants are required to submit a writing sample directly to the Graduate Chair of Earth and Environmental Science. Acceptable materials include the undergraduate thesis or research paper, master’s thesis, and published journal articles in which the applicant is first author.

Program Requirements

General Program Requirements:

- **Number of Credits Required Beyond the Baccalaureate:** 37, including 7 courses required in the Department of Earth and Environmental Science, with one additional course taken outside of the department, if desired
- **Number of Credits Required Beyond the Master’s:** 18, including 3 courses required in the Department of Earth and Environmental Science, with one additional course taken outside of the department, if desired

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EES 5011</td>
<td>Remote Sensing and GIS</td>
<td>3</td>
</tr>
<tr>
<td>EES 5042</td>
<td>Coastal Processes</td>
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</tr>
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<td>EES 5101</td>
<td>Structural Geology (Graduate)</td>
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</tr>
<tr>
<td>EES 5401</td>
<td>Analytical Methods in Mineralogy</td>
<td>3</td>
</tr>
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<td>EES 5402</td>
<td>X-ray Crystallography</td>
<td>3</td>
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<td>EES 5406</td>
<td>Nanoscience and the Environment</td>
<td>3</td>
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<td>EES 5434</td>
<td>Ecohydrology</td>
<td>3</td>
</tr>
<tr>
<td>EES 5454</td>
<td>Introduction to Geophysics</td>
<td>3</td>
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<tr>
<td>EES 5461</td>
<td>Low-Temperature Geochemistry</td>
<td>3</td>
</tr>
<tr>
<td>EES 5462</td>
<td>Advanced Low-Temperature Geochemistry</td>
<td>3</td>
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<tr>
<td>EES 5502</td>
<td>Glaciology</td>
<td>3</td>
</tr>
<tr>
<td>EES 5601</td>
<td>Vertebrate Paleontology and Taphonomy</td>
<td>3</td>
</tr>
<tr>
<td>EES 5625</td>
<td>Electron Optical Techniques</td>
<td>3</td>
</tr>
</tbody>
</table>

\[1\] Select seven of the following:
Culminating Events:
Qualifying for Ph.D. candidacy includes completion of coursework within the Department of Earth and Environmental Science, as well as demonstrations of subject area knowledge, skill, and the ability to conduct research to define and investigate new questions. The assessment for candidacy consists of four parts:

1. Completion of a minimum of three departmental graduate courses in good standing
2. Successfully passing the written and oral components of the Preliminary Examination
3. Submission and acceptance of an NSF-style research proposal
4. Oral defense of the research proposal

Dissertation:
The Department of Earth and Environmental Science requires an original research dissertation as the culminating project in its Ph.D. program.

Contacts
Program Web Address:
http://cst.temple.edu/academics/graduate-programs/earth-environmental-science

Department Information:
Dept. of Earth and Environmental Science
326 Beury Hall
1901 N. 13th Street
Philadelphia, PA 19122-6081
ees@temple.edu
215-204-8227

Submission Address for Application Materials:
https://apply.temple.edu/CST/

High-Performance Computing for Scientific Applications, P.S.M.


About the Program
Computation, in tandem with theory and experiment, is highly regarded in the advance of scientific knowledge and engineering practice. In recognition of a growing need for experts cross-trained in relevant computational sciences, applied mathematics, statistics, and traditional scientific fields such as chemistry and physics, the Professional Science Master's (P.S.M.) program in High-Performance Computing for Scientific Applications is targeted toward STEM graduates seeking to use high-performance computation as their primary research instrument in the physical sciences, life sciences, and engineering. The core curriculum introduces students to the architecture of high-performance computing systems, mathematical techniques employed in high-performance computing, the software tools used in parallel calculations, and computational methods used in the sciences and engineering. A distinguishing feature of the program is its paired emphasis on the algorithms and technology of high-performance computing in applications to problems in science and engineering. Cross-disciplinary techniques are emphasized, and learning through applications and individually designed projects are prioritized over theory.

Time Limit for Degree Completion: 2 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis. Most of the courses are offered in the evenings or on weekends to enable full-time working professionals to enroll in the program. International students are required to register as full-time students.

Interdisciplinary Study: The program is interdisciplinary by nature.

Accreditation: Temple University is fully accredited by the Middle States Commission on Higher Education.
Job Prospects: Students in the program are connected to internships in industry and government laboratories by the P.S.M. Scientific Advisory Committee. Graduates are then well prepared to compete for high-quality positions in industry, government laboratories, and academia.

Non-Matriculated Student Policy: Non-matriculated students may enroll in a total of three courses (9 credits) with permission of the instructor and the Department of Mathematics.

Financing Opportunities: Financial assistance in the form of Research or Teaching Assistantships is not offered.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1; December 15 international
Spring: Open only to non-matriculated students who successfully completed P.S.M. coursework in the Fall term

Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 3

From Whom: Letters should be obtained from college/university faculty or faculty who are familiar with the applicant's competency. If the applicant has an established career in the field, the applicant's immediate supervisor should provide one of the letters.

Coursework Required for Admission Consideration: Applicants should have a strong background in one or more STEM fields: Science, Technology, Engineering, and Mathematics.

Bachelor's Degree in Discipline/Related Discipline: The P.S.M. program has been designed for recent graduates and professionals who have a bachelor's degree or equivalent in a STEM field.

Statement of Goals: Approximately 250 to 500 words include your interest in Temple's program, your research goals, and your academic and research achievements.

Standardized Test Scores:
GRE: Required. A combined minimum score of 300 on the quantitative and verbal reasoning sections of the new test is expected.

For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:
TOEFL: 85 iBT or 563 PBT minimum
IELTS: 7.0 minimum
PTE Academic: 53 minimum

Interview: An in-person or SKYPE interview with the Program Director or members of the P.S.M. Steering Committee is required.

Transfer Credit: Graduate credits from an accredited institution may be transferred into the P.S.M. program. The credits must be equivalent to coursework offered by the Department of Mathematics at Temple University. A grade of "B" or better must have been earned for the credits to transfer. The P.S.M. Steering Committee makes recommendations to the Department Chair for transferring credit on an individual basis. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>MATH 5061</td>
<td>Fundamentals of Computer Programming for Scientists and Engineers</td>
<td>4</td>
</tr>
<tr>
<td>MATH 5063</td>
<td>Introduction to High-Performance Computing Technology for Scientists</td>
<td>4</td>
</tr>
<tr>
<td>Two High-Performance Computing Courses</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Ethics Course</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Professional Development Course</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

Select three courses from the following:

- BIOL 5411 Structural Bioinformatics I
- CHEM 5301 Quantum Chemistry
- CHEM 5302 Statistical Thermodynamics
- CIS 5524 Analysis and Modeling of Social and Information Networks
- CIS 5525 Neural Computation
- CIS 5526 Machine Learning
- CIS 9669 Distributed and Parallel Computer Systems
- MATH 8013 Numerical Linear Algebra I
- MATH 8014 Numerical Linear Algebra II
- MATH 8023 Numerical Differential Equations I
- MATH 8024 Numerical Differential Equations II
- MATH 8107 Mathematical Modeling for Science, Engineering, and Industry
- MATH 8700 Topics Computer Program
- MATH 8710 Topics Computer Program
- MATH 9200 Topics in Numerical Analysis
- MATH 9210 Topics in Numerical Analysis
- PHYS 5001 Introduction to Quantum Computing
- PHYS 8102 Statistical Mechanics

Capstone Course 4

Total Credit Hours 30

Additional Requirements: All graduate-level courses must be passed with a "B-" or better.

Culminating Events:

Capstone Research Project:
The Capstone Research Project provides students with the opportunity to develop, apply, and demonstrate their skills in a professional high-performance computing environment. The project must be approved in advance by the P.S.M. Steering Committee and requires a supervisor from either the Temple faculty or the P.S.M. Scientific Advisory Committee. Students can undertake their research projects in whole or in part during student internships.
Contacts

Program Web Address:
https://math.temple.edu/grad/

Department Information:
Dept. of Mathematics
638 Wachman Hall
1805 N. Broad Street
Philadelphia, PA 19122-6094
grad.math@temple.edu
215-204-7842

Submission Address for Application Materials:
https://apply.temple.edu/CST/

Department Contacts:
Graduate Chairperson:
David Futer, Ph.D.
grad.math@temple.edu
215-204-7854

Chairperson:
Irina Mitrea, Ph.D.
mathematics@temple.edu
215-204-4650

Information Science and Technology, M.S.

COLLEGE OF SCIENCE AND TECHNOLOGY (https://cst.temple.edu)

Learn more about the Master of Science in Information Science and Technology (https://www.temple.edu/academics/degree-programs/information-science-and-technology-ms-st-ist-ms).

About the Program
The M.S. in Information Science and Technology (IS&T) program is designed for students without a background in programming and/or computer science to gain the skills to be prepared for careers in computing and information technology. This program allows students with undergraduate degrees from non-computing fields to add technical expertise in order to pursue the interdisciplinary career paths of the future. Students learn skills applicable to computer networking, database management, information security, mobile app development, software engineering, software testing and quality assurance, and web development. As preparation for studying these advanced topics, fast-paced, rigorous, introductory classes with a strong foundation in algorithms, data structures, and programming are offered to M.S. in IS&T students.

The M.S. in IS&T program is designed for applicants with limited or no past experience in computer science. Candidates with some preparation and/or an undergraduate major in Computer Science or a closely related field should apply to the M.S. in Computer Science (p. 767) or M.S. in Computational Data Science (p. 762) programs.

Time Limit for Degree Completion: 5 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered after 4:30 p.m. The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: Students may take up to three graduate IS&T-related courses in other departments. All such course clusters require prior approval of the M.S. in IS&T Program Director.

Areas of Specialization: Research interests of faculty include:

- Communication and networks
- Data warehousing, filtering, and mining
- Enterprise system development and resource management
- Ethics and social issues related to technology
- Knowledge management
- Management information and database systems
- Security and privacy
- Software engineering
- System development and process management
- Usability engineering

Job Prospects: Graduates often find employment in computer networking, database management, information security, mobile app development, software engineering, software testing and quality assurance, and web development. Many become involved in the design and implementation of new applications software or the planning and evaluation of computer-based systems. Prospective employers include the government, universities and colleges, and non-profit agencies, as well as information technology organizations, computer centers, or computer manufacturers in industry.

Non-Matriculated Student Policy: Non-matriculated students are permitted to take a maximum of two graduate-level CIS courses.

Financing Opportunities: Assistantships provide a stipend and full-time tuition to qualified students, but are typically reserved for doctoral students.

Admission Requirements and Deadlines

Application Deadline:
Fall: December 15
Spring: August 1

Applications are reviewed as they are received. Late applications will be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from Computer Science faculty and professionals.

Coursework Required for Admission Consideration: Applicants are expected to have some interest in and exposure to programming (e.g., through free online coding tutorials in C/C++, Java, and/or Python).

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree is required.
**Statement of Goals:** Approximately 500 to 1,000 words include your specific interest in Temple’s program, your research goals, your future career goals, and your academic and research achievements.

**Standardized Test Scores:**
GRE: Required. Scores should be in the 75th percentile on the quantitative section and 25th percentile on the verbal section. Most students submit scores far above the minimums.

For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:
- TOEFL: 85 iBT or 563 PBT minimum
- IELTS: 7.0 minimum
- PTE Academic: 58 minimum

**Resume:** Current resume required.

**Transfer Credit:** Graduate-level IS&T coursework obtained no more than five years prior to the student’s matriculation in the graduate program may be transferred into the M.S. in IS&T program. The student must have earned an “A” in the course, and must submit a rationale for applying the credits to the current graduate program. The maximum number of credits a student may transfer is 6.

**Program Requirements**

**General Program Requirements:**
*Number of Credits Required Beyond the Baccalaureate:* 30

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td></td>
<td><strong>Core Courses</strong></td>
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<tr>
<td></td>
<td>Select a minimum of three of the following courses:</td>
<td>9</td>
</tr>
<tr>
<td>CIS 5002</td>
<td>Database Design &amp; Programming</td>
<td></td>
</tr>
<tr>
<td>CIS 5016</td>
<td>Data Structures and Objects</td>
<td></td>
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<tr>
<td>CIS 5017</td>
<td>Operating Systems and Architecture</td>
<td></td>
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<tr>
<td>CIS 5107</td>
<td>Comp Systems Security &amp; Privacy</td>
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<tr>
<td>CIS 5590</td>
<td>Topics in Computer Science</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Electives</strong></td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Select from the following CIS courses, take courses listed above not completed for the core course requirement, or take other graduate-level CIS courses or courses outside the department with the approval of the M.S. in IS&amp;T Program Director:</td>
<td></td>
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<tr>
<td>CIS 5208</td>
<td>Knowledge Management</td>
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<tr>
<td>CIS 5210</td>
<td>Seminar in Information Science and Technology</td>
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<tr>
<td>CIS 5274</td>
<td>Software Quality Assurance and Testing</td>
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<td>CIS 5275</td>
<td>Software Project Management</td>
<td></td>
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<tr>
<td>CIS 5301</td>
<td>Advanced Database Management Systems</td>
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<tr>
<td>CIS 5303</td>
<td>Usability Engineering</td>
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<tr>
<td>CIS 5304</td>
<td>Network Technologies</td>
<td></td>
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<tr>
<td>CIS 5306</td>
<td>Software Engineering</td>
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</tr>
<tr>
<td>CIS 5410</td>
<td>Advanced Seminar in Information Science and Technology</td>
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</tbody>
</table>

**Capstone Course**

CIS 9991 | Master’s Research Projects | 3 |

Total Credit Hours: 30

1 Six electives are typically selected from graduate CIS courses, which are not limited to the courses listed above. Courses not included in the above list do, however, require the approval of the M.S. in IS&T Program Director. Note that a maximum of three courses may be taken from other departments with approval of the M.S. in IS&T Program Director. Further, at least 1 credit of coursework (or research experience) outside of the Department of Computer and Information Sciences is required. To fulfill this 1-credit minimum requirement, students enroll in CIS 9182 or CIS 9282, an Independent Study course. This requirement can be waived for students with adequate work experience.

**Culminating Events:**

**Project:** Students are required to complete three credits of CIS 9991 Master’s Research Projects.

**Contacts**

**Program Web Address:**
https://cis.temple.edu/programs/msist

**Department Information:**
Dept. of Computer and Information Sciences
313 Science and Education Research Center
1925 N. 12th Street
Philadelphia, PA 19122-1801
cisadmit@temple.edu
215-204-8450

**Submission Address for Application Materials:**
https://apply.temple.edu/CST/

**Department Contacts:**

**Admissions:**
Graduate Administrative Coordinator
cisadmit@temple.edu
215-204-8450

**Graduate Advisor:**
Tony Hughes
anthony.hughes@temple.edu
215-204-7910

**Graduate Chairperson:**
Eduard Dragut
edragut@temple.edu
215-204-0521

**Department Chairperson:**
Jamie Payton
jamie.payton@temple.edu
215-204-8245
Mathematics, M.S.

COLLEGE OF SCIENCE AND TECHNOLOGY (https://cst.temple.edu)

Learn more about the Master of Science in Mathematics (https://www.temple.edu/academics/degree-programs/mathematics-ms-st-maths).

About the Program

The Department of Mathematics offers graduate work leading to the Master of Science degree. The aim of the M.S. program is to provide students with a foundation sufficient to pursue careers in mathematics in industry, government, or education. The program offers opportunities to conduct original research under the supervision of a faculty member.

Time Limit for Degree Completion: 3 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered before 4:30 p.m. The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: The program encourages interdisciplinary coursework, research, and interactions among faculty and students with interest in computer and information sciences, physical and life sciences, statistics, and engineering.

Affiliation(s): The Mathematics program at Temple University is affiliated with the American Mathematical Society and the Mathematical Association of America.

Study Abroad: Department faculty are active internationally and sometimes travel overseas for conferences and extended research visits. In some cases, students may participate in these activities.

Accreditation: This program adheres to accepted professional standards of mathematics education and research.

Areas of Specialization: The department has approximately 25 faculty members actively involved in research and graduate education. With a graduate student body of less than 40, we are a program of moderate size with a high faculty/student ratio. Thus, we provide students with unique opportunities for flexible program design and ample interaction with faculty. Classes are small and are held in an informal atmosphere enabling students and faculty to work closely together.

The department offers a great variety of choices for areas of specialization. A strong research presence exists in the following areas: algebra, computational mathematics, differential geometry and topology, geometric group theory, global geometry, harmonic analysis, invariant theory, mathematical biology, mathematical physics, mathematics of materials, numerical analysis, partial differential equations, probability, representation theory, and several complex variables. Both prospective and matriculated students are encouraged to browse faculty web pages and contact faculty directly for more detailed information regarding areas of specialization and opportunities for further research.

Job Prospects: Graduates either continue advanced educational programs or pursue employment in industry, education, or government laboratories and agencies.

Non-Matriculated Student Policy: Non-matriculated students must coordinate coursework with the Graduate Chair.

Financing Opportunities: Teaching Assistants teach basic undergraduate mathematics courses, ranging from remedial courses through calculus. The standard teaching load is 20 hours per term. In determining the load, credit is given for more difficult and challenging teaching assignments. Research Assistantships are sometimes available, typically through special projects and grants. Support generally includes a stipend and tuition of up to 9 credits per term.

Admission Requirements and Deadlines

Application Deadline:

Fall: February 15

Applications are processed on a semi-rolling basis.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from individuals who are well acquainted with the applicant's abilities and achievements in mathematics and related areas, particularly former instructors in mathematics courses and projects. Letters from instructors in related areas such as computation or the physical and life sciences are also appropriate. In certain cases, letters from employment supervisors or project leaders may be appropriate as well.

Coursework Required for Admission Consideration: Applicants must have completed fundamental undergraduate mathematics courses.

Bachelor's Degree in Discipline/Related Discipline: All applicants must hold a baccalaureate degree from an accredited college or university.

Statement of Goals: Describe your strengths and motivation, the purpose for applying to a graduate program in mathematics, and why you are interested in the intended degree. This forum should be used to make your strongest case for admission and, thus, should be well written.

Standardized Test Scores:

GRE: No rigid minimum score criteria. The department considers an applicant's overall record. Students who wish to discuss their scores are encouraged to contact the department directly.

TOEFL score: 79 iBT or 550 PBT minimum

Resume: Current resume required.

Transfer Credit: Students who have taken graduate courses at other institutions, or at Temple University prior to matriculation, may apply for transfer credit. Applications for transfer credit are not considered until the student has completed at least one term of full-time graduate study or the equivalent, if the student is part-time. All applications for transfer credit are reviewed by the Mathematics Graduate Committee and may be denied if the committee decides that the courses involved are substantially inferior to similar courses offered by the department. No course completed more than five years before the date of application will be awarded credit. Credit for courses substantially similar to courses taken since matriculation will not be awarded. If a course was taken before the bachelor's degree was earned, it cannot be awarded transfer credit. Transfer credit is only available for graduate-level courses in...
mathematical content. The maximum number of credits a student may transfer is 9.

Test Waivers: An applicant who wishes to have certain admission requirements waived must contact the department directly. Requests are considered by the department on a case-by-case basis. In some cases, an additional appeal to the Graduate School may be required. In such a case, the department makes a preliminary determination for the applicant and, if positive, issues a supporting letter to the Graduate School on the applicant's behalf.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:
The Master of Science degree requires 10 graduate courses at the 5000 level or above. The program of study must be designed in coordination with a Mathematics faculty advisor and approved by the departmental Graduate Committee. With the approval of the faculty advisor and Graduate Committee, relevant courses from departments other than Mathematics may be included.

The M.S. degree is offered with an optional concentration in Applied and Computational Mathematics. The concentration is designed for students interested in incorporating advanced study in mathematical and computational methods into the Master of Science program. Students pursuing this concentration complete at least 15 credits of coursework in applied and computational mathematics within their 30-credit degree program.

Culminating Events:
After satisfying the 30-credit course requirement, students may choose between the following three options as the culminating event of the M.S. degree:

- Master's Thesis
- Master's Comprehensive Examination
- Master's Pass on the Ph.D. Comprehensive Examination

Master's Thesis:
Students who choose to submit a master's thesis must select a faculty advisor and a thesis advisory committee. These arrangements are subject to the approval of the Mathematics Graduate Committee. The case of a student failing the comprehensive exam by a small margin is discussed by the department's Graduate Committee, which takes the student's whole academic record into account in its decision.

Contacts

Program Web Address:
https://math.temple.edu/grad/

Department Information:
Dept. of Mathematics
638 Wachman Hall
1805 N. Broad Street
Philadelphia, PA 19122-6094
grad.math@temple.edu
215-204-7842

Submission Address for Application Materials:
https://apply.temple.edu/CST/

Department Contacts:
Graduate Chairperson:
David Futer, Ph.D.
grad.math@temple.edu
215-204-7854

Chairperson:
Irina Mitrea, Ph.D.
mathematics@temple.edu
215-204-4650

Mathematics, Ph.D.

COLLEGE OF SCIENCE AND TECHNOLOGY (https://cst.temple.edu)


About the Program

The Ph.D. program in Mathematics prepares students for careers that depend on advanced mathematics. These include broad directions such as advanced research and development, education, government, industry, and national laboratories. For new students, the program offers a repertoire of coursework and research opportunities that ease the transition from undergraduate to advanced graduate studies. The courses provide a sound mathematical background, while helping beginning students to mature mathematically. Naturally, individuals with enough maturity and knowledge need not take these more basic courses. In the Mathematics Department, our philosophy is to participate actively in our students’ development as future professionals whose work involves advanced mathematics. We take pride in caring for our students. Our
faculty are accessible and willing to talk mathematics with any inquiring student. It is this attitude that most distinguishes our program from other mathematics graduate programs. While requiring excellence, we work hard at providing the environment for achieving it.

**Time Limit for Degree Completion:** 7 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** Students complete the degree program through classes offered before 4:30 p.m. The degree program can be completed on a full- or part-time basis

**Interdisciplinary Study:** The program encourages interdisciplinary coursework, research, and interactions among faculty and students with interest in computer and information sciences, physical and life sciences, statistics, and engineering.

**Affiliation(s):** The Mathematics program at Temple University is affiliated with the American Mathematical Society and the Mathematical Association of America.

**Study Abroad:** Department faculty are active internationally and sometimes travel overseas for conferences and extended research visits. In some cases, students may participate in these activities.

**Ranking:** The Ph.D. program is designed to provide opportunities for education and research that are commensurate with national standards. Faculty are active in professional meetings and initiatives organized by the American Mathematical Society and the Mathematical Association of America.

**Accreditation:** This program adheres to accepted professional standards of mathematics education and research.

**Areas of Specialization:** The department offers a great variety of choices for areas of specialization, with a strong research presence in the following areas:

- Algebra
- Algebraic and analytic number theory
- Combinatorics
- Computational mathematics
- Differential and computational geometry and topology
- Global geometry
- Harmonic analysis
- Mathematical physics
- Mathematics of materials
- Numerical analysis
- Partial differential equations
- Related probability and mathematical statistics
- Several complex variables

Both prospective and matriculated students are encouraged to browse faculty web pages and contact faculty directly for more detailed information regarding areas of specialization and opportunities for further research.

**Job Prospects:** Graduates either continue advanced educational programs or pursue employment in industry, education, or government laboratories and agencies.

**Non-Matriculated Student Policy:** Non-matriculated students must coordinate coursework with the Graduate Chair.

**Financing Opportunities:** Teaching Assistants teach basic undergraduate mathematics courses, ranging from remedial courses through calculus. The standard teaching load is 20 hours per term. In determining the load, credit is given for more difficult and challenging teaching assignments. Research Assistantships are sometimes available, typically through special projects and grants. Support generally includes a stipend and tuition of up to 9 credits per term.

## Admission Requirements and Deadlines

**Application Deadline:**

- **Fall:** January 8; December 8 international

For full consideration, applications should be received by the stated deadlines. Applications received after these dates will be considered on a case-by-case rolling basis.

**APPLY ONLINE to this graduate program.**

**Letters of Reference:**

**Number Required:** 3

**From Whom:** Letters of recommendation should be obtained from individuals who are well acquainted with the applicant's abilities and achievements in mathematics and related areas, particularly former instructors in mathematics courses and projects. Letters from instructors in related areas such as computation or the physical and life sciences are also appropriate. In certain cases, letters from employment supervisors or project leaders may be appropriate as well.

**Coursework Required for Admission Consideration:** Applicants must have completed fundamental undergraduate mathematics courses. Prospective students are encouraged to contact the department to discuss their background.

**Master's Degree in Discipline/Related Discipline:** A master's degree is not required.

**Bachelor's Degree in Discipline/Related Discipline:** All applicants must hold a baccalaureate degree from an accredited college or university.

**Statement of Goals:** Describe your strengths and motivation, the purpose for applying to a graduate program in mathematics, and why you are interested in the intended degree. This forum should be used to make your strongest case for admission and, thus, should be well written.

**Standardized Test Scores:**

- GRE General Test and GRE Subject Test in Mathematics: Rigid minimum score criteria is not used. The department considers an applicant's overall record. Students who wish to discuss their scores are encouraged to contact the department directly.
- TOEFL score: 79 iBT or 550 PBT minimum
- Resume: Current resume required.

**Transfer Credit:** Students who have taken graduate courses at other institutions, or at Temple University prior to matriculation, may apply for transfer credit. Applications for transfer credit are not considered until the student has completed at least one term of full-time graduate study or the equivalent, if the student is part-time. All applications for
transfer credit are reviewed by the Mathematics Graduate Committee and may be denied if the committee decides that the courses involved are substantially inferior to similar courses offered by the department. No course completed more than five years before the date of application will be awarded credit. Credit for courses substantially similar to courses taken since matriculation will not be awarded. If a course was taken before the bachelor's degree was earned, it cannot be awarded transfer credit. Transfer credit is only available for graduate-level courses in mathematical content. The maximum number of credits a student may transfer is 9.

**Advanced Standing:** A student who has completed a master's degree at another institution may apply for advanced standing. Students are awarded varying numbers of credit of advanced standing. This differs from transfer credit in that the number of credit hours awarded is recorded on the transcript without specific information about the courses transferred. The effect of having advanced standing is to reduce the total number of credit hours the student is required to take at Temple University. Credit for advanced standing can only be awarded to students who have completed a master's degree at another institution. Although there is no requirement that the degree must have been completed recently, the amount of time since the degree has been completed is taken into consideration. The maximum number of advanced standing credits awarded is 30.

**Test Waivers:** An applicant who wishes to have certain admission requirements waived must contact the department directly. Requests are considered by the department on a case-by-case basis. In some cases, an additional appeal to the Graduate School may be required. In such a case, the department makes a preliminary determination for the applicant and, if positive, issues a supporting letter to the Graduate School on the applicant's behalf.

## Program Requirements

### General Program Requirements:

**Number of Credits Required Beyond the Baccalaureate:** 54

### Required Courses:

Students are required to take at least 16 graduate courses, which are chosen with the advice and consent of the student's advisor. These courses should be taken during the first two years of graduate study and include foundational 8000-level courses for the topics in which the student plans to take the Ph.D. Comprehensive Examination. Students who have had graduate courses in these subjects prior to admission may omit some or all of the courses with the consent of their advisor and the Graduate Committee.

Students also take six additional credit hours of:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tr>
<td>MATH 9994</td>
<td>Preliminary Examination Preparation</td>
<td>1-6</td>
</tr>
<tr>
<td>MATH 9998</td>
<td>Pre-Dissertation Research / Elevation to Candidacy</td>
<td>1-6</td>
</tr>
<tr>
<td>MATH 9999</td>
<td>Dissertation Research</td>
<td>2 minimum</td>
</tr>
</tbody>
</table>

### Culminating Events:

**Written Comprehensive Examination:**

The Ph.D. Comprehensive Examination is a written exam comprised of three separate sections selected from the following areas:

- Algebra
- Applied Mathematics
- Complex Analysis
- Differential Geometry and Topology
- Partial Differential Equations
- Real Analysis

Students can choose any three of these sections for their examination. After exams in three different topics have been attempted, an exam in a fourth topic can only be taken under exceptional circumstances, and only after specific approval by the Graduate Committee. Each section is a three-hour test based primarily on the corresponding two-term 8000-level graduate course sequence. The separate section tests are given on different days, during one two-week period, twice a year: once in August just before the beginning of the Fall term, and once in January during the two weeks prior to the beginning of the Spring term. Students do not have to take all three of the section tests during the same two-week period. Each section test may be repeated once to obtain a higher grade.

Each of the three-hour section tests is further divided into two parts. Part I contains four questions, of which the student is asked to answer three. These questions are designed to test mastery of the facts of the subject. Part II contains three questions, of which two are to be answered. These questions test the ability to solve in-depth problems in the subject.

Students should begin taking the components of the Comprehensive Exam as soon as possible after finishing the corresponding coursework. Students are expected to complete and pass the Comprehensive Examination by August of their second year of study. While some delay in this schedule may be permitted, under exceptional circumstances, students not making good progress toward completing and passing their Comprehensive Examination in a timely fashion will be asked to leave the Ph.D. program.

Incoming students may, with approval of the Graduate Chair, take up to three of the written Ph.D. Comprehensive Examination sections once prior to their first term of enrollment. Upon request by the student, any of these pre-enrollment attempts can be removed from the student's record.

Each section is graded independently by two faculty members, using a scale of 0 to 25. The grades are compared and reconciled in the event of a discrepancy. A total score of at least 60, with a score on each individual section test of at least 13, is required to pass. If a student falls slightly short of this standard, the Graduate Faculty may, at their discretion, recommend a grade of pass based on the whole of the student's academic record.

A student who achieves a total score of at least 40 from the three sections of the Ph.D. Comprehensive Examination, with no individual section below 8, has obtained a master's pass on the examination and has fulfilled the examination requirement for the M.S. degree. If one of the individual exam scores falls below 8 points, that exam may be repeated once, or the exam in a different topic may be attempted once, or the student may take the Master's Comprehensive Examination. As above, such arrangements are subject to approval by the Graduate Committee, and if a student falls slightly short of the required standards, then the Graduate Faculty may, at their discretion, recommend a grade of pass, basing their decision on the student's entire academic record.

A student who achieves a total score of at least 40 from the three sections of the Ph.D. Comprehensive Examination, with no individual section below 8, has obtained a master's pass on the examination and has fulfilled the examination requirement for the M.S. degree. If one of the individual exam scores falls below 8 points, that exam may be repeated once, or the exam in a different topic may be attempted once, or the student may take the Master's Comprehensive Examination. As above, such arrangements are subject to approval by the Graduate Committee, and if a student falls slightly short of the required standards, then the Graduate Faculty may, at their discretion, recommend a grade of pass, basing their decision on the student's entire academic record.

**Preliminary Examination:**

The preliminary examination is a two-hour oral exam. It should be taken by the end of the sixth term and must be passed by the end of the seventh term. The Ph.D. preliminary examination can be repeated,
The student chooses a chief examiner with the advice and consent of the Mathematics Graduate Committee -- and with the consent of the proposed chief examiner. The chief examiner, in accepting his/her assignment, implicitly offers to be the student’s dissertation supervisor if the examination is passed. Approximately one-half of the preliminary examination is conducted by the chief examiner, who asks questions in the area that the student has chosen as a specialty. The other half of the examination is devoted to questions asked by other faculty members on two or more elementary topics related to the area of specialization. The exact description of the elementary topics to be included in the examination is determined by the chief examiner, who will also be responsible for assigning examiners to cover the topics. The examination committee consists of the chief examiner, the examiners for the elementary topics, and any other faculty who choose to attend. All faculty in attendance may vote on the outcome of the examination. The examination is considered passed if the chief examiner and at least one-half of the other faculty present vote in favor of passing.

Students who are preparing to write their preliminary examination should confirm a time and date with the chair of their Doctoral Advisory Committee and register with the Graduate Secretary. The student and chair receive confirmation of the time, date, room, and proctor for the examination.

**Dissertation:**
The candidate’s dissertation must be a distinctive and original contribution to research in mathematics. It must be an individual work, with only one author. Previously published work by the candidate may be included, if it represents research done while the student was enrolled in the Ph.D. program in Mathematics at Temple University and was not used to obtain any other degree. Joint work that cannot be attributed to the candidate alone must not be included in the body of the dissertation, but may be attached as an appendix. All previously published work must be logically connected and integrated into the dissertation, with a common introduction, conclusion, and bibliography. Existing copyrights must not be violated.

Preparation of the dissertation is supervised by the student’s Doctoral Advisory Committee (DAC). This committee must include at least three Temple graduate faculty, two of whom must be in the Mathematics Department. The chair of the committee must be a member of the Temple University Mathematics Department. The DAC may include members of other Temple University departments; it is also possible for faculty from other universities or expert advisors employed in non-university settings to be included in the DAC.

The first step in preparing the dissertation is to write a dissertation proposal, which must be approved by the candidate’s DAC. The proposal is kept on file, and if it becomes necessary to alter the proposal, the changes should be approved by the DAC and filed with the proposal.

The dissertation defense may be attended by faculty and graduate students from Temple University or other institutions, as well as mathematicians or scientists employed in a non-academic setting. The candidate’s Dissertation Examining Committee (DEC) must attend the defense. This committee includes the candidate’s DAC and at least one additional member, who must be a faculty of some Temple University department other than Mathematics or a faculty member of another university. The DEC meets at the conclusion of the dissertation defense and decides, by majority vote, if the candidate was successful.

If a student needs to change a member of a committee, the new member must be approved by the Mathematics Graduate Committee and registered with the Graduate Secretary and the Graduate School.

When the dissertation is deemed complete by the candidate and the DAC, a defense is scheduled. Students who are preparing to defend their dissertation should confirm a date and time with their DAC and register with the Graduate Secretary at least 20 days before the defense is to be scheduled. The Graduate Chair arranges the date, time, and room. The Graduate Secretary forwards to the student the appropriate forms.

This dissertation defense must be announced in writing at least 10 days in advance of its occurrence. Copies of the announcement must be directed to each member of the candidate’s DEC, each faculty member of the Mathematics Department, the Dean of the College of Science and Technology, and the Graduate School. Copies of the announcement are to be posted at the Department Office, the College Office, and on the Graduate School website.

**Contacts**

**Program Web Address:**
https://math.temple.edu/grad/

**Department Information:**
Dept. of Mathematics  
638 Wachman Hall  
1805 N. Broad Street  
Philadelphia, PA 19122-6094  
grad.math@temple.edu  
215-204-3928

**Submission Address for Application Materials:**
https://apply.temple.edu/CST/

**Department Contacts:**

**Graduate Chairperson:**  
David Futer, Ph.D.  
grd.math@temple.edu  
215-204-7854

**Chairperson:**  
Irina Mitrea, Ph.D.  
mathematics@temple.edu  
215-204-4650

**Physics, M.S.**

COLLEGE OF SCIENCE AND TECHNOLOGY (https://cst.temple.edu)  
Learn more about the Master of Science in Physics (https://www.temple.edu/academics/degree-programs/physics-ms-st-phys-ms).

**About the Program**

The objective of the M.S. degree program in Physics is to provide advanced training in Physics sufficiently broad to permit the graduate
to pursue a range of technical careers. Students choose to pursue the Coursework Track or Thesis Track to complete the M.S. degree.

**Time Limit for Degree Completion:** 3 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The degree program can be completed on a full- or part-time basis.

**Job Prospects:** The program is dedicated to producing well-trained scientists prepared for careers as high school science teachers, technical writers, or members of a technical support staff.

**Non-Matriculated Student Policy:** Non-matriculated students are restricted to taking the following courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 5101</td>
<td>Analytical Mechanics I</td>
<td></td>
</tr>
<tr>
<td>PHYS 5301</td>
<td>Electromagnetic Theory</td>
<td></td>
</tr>
<tr>
<td>PHYS 5501</td>
<td>Mathematical Physics I</td>
<td></td>
</tr>
</tbody>
</table>

If the student applies to and is accepted into the program, the courses taken, up to 9 credits, may be applied toward the degree requirements.

**Financing Opportunities:** Financial aid in the form of Teaching Assistantships, Research Assistantships, and Temple University Fellowships is reserved largely for Ph.D. students. Applicants with a bachelor's degree who wish to earn a doctorate should apply to the Ph.D. program, not the M.S. program. Students in the Ph.D. program normally complete all of the requirements for the M.S. in their first two years and may request the M.S. degree at that time while continuing in the Ph.D. program.

**Admission Requirements and Deadlines**

**Application Deadline:**

- **Fall:** March 1; December 15 international
- **Spring:** November 1; August 1 international

Applications are reviewed as they are received throughout the year. Late applications may be considered for admission.

**APPLY ONLINE to this graduate program.**

**Letters of Reference:**

- **Number Required:** 2

  **From Whom:** Letters of recommendation should be obtained from college/university faculty members or scientists familiar with the applicant's academic and scientific capabilities.

**Coursework Required for Admission Consideration:** Applicants should have successfully completed coursework typically required for a bachelor's degree in Physics.

**Bachelor's Degree in Discipline/Related Discipline:** A baccalaureate degree in Physics is typically required. A certified transcript is required from each institution previously attended by the applicant.

**Statement of Goals:** One to two pages address the applicant's specific interest in Temple's program, research and career goals, and academic and research achievements.

**Standardized Test Scores:**

- **GRE:** General Test required. Subject Test in Physics strongly recommended, but not required.
- **For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:**
  - **TOEFL:** 79 iBT or 550 PBT minimum
  - **IELTS:** 6.5 minimum
  - **PTE Academic:** 53 minimum

**Transfer Credit:** Graduate credits from an accredited institution may be transferred into the program. The credits must be equivalent to coursework offered at Temple, and the grade must be a "B" or better in order to transfer. The Graduate Program Committee must approve all requests for transfer credit. The maximum number of credits a student may transfer is 6.

**Program Requirements**

**General Program Requirements:**

- **Number of Credits Required Beyond the Baccalaureate:** 30

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 5101</td>
<td>Analytical Mechanics I</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 5301  &amp; PHYS 5302</td>
<td>Electromagnetic Theory and Electromagnetic Theory</td>
<td>6</td>
</tr>
<tr>
<td>PHYS 5501  &amp; PHYS 5502</td>
<td>Mathematical Physics I and Mathematical Physics II</td>
<td>6</td>
</tr>
<tr>
<td>PHYS 5701  &amp; PHYS 5702</td>
<td>Quantum Mechanics I and Quantum Mechanics II</td>
<td>6</td>
</tr>
<tr>
<td>PHYS 8102</td>
<td>Statistical Mechanics</td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Coursework**

1. The balance of coursework is identified in consultation with the graduate advisor and subject to the approval of the Graduate Program Committee.
2. For the Coursework Track, no more than 3 credits may be taken in these independent study courses: PHYS 8004 Problems in Experimental Physics; PHYS 8005 Problems in Theoretical Physics; or PHYS 9998 Pre-Dissertation Research / Elevation to Candidacy.
3. For the Thesis Track, coursework including 3 credits of PHYS 9996 Master's Thesis Research and an additional 3 credits of PHYS 8004 Problems in Experimental Physics, PHYS 8005 Problems in Theoretical Physics, or PHYS 9996 Master's Thesis Research must be taken.

**Culminating Events:**

**Comprehensive Examination:**

The M.S. comprehensive examination is required for students in the Coursework Track, but not for students in the Thesis Track. The exam, which tests the student's mastery of undergraduate and beginning graduate physics, consists of a three-part written exam and an oral exam. General subject areas covered by the examination include classical electromagnetic theory, classical mechanics, mathematical
physics, modern physics, quantum mechanics, statistical mechanics, and thermodynamics.

M.S. students in the Coursework Track are required to take the comprehensive examination in the summer at the end of their first year of full-time graduate study. They are tested on the subject matter in six core courses: PHYS 5101, PHYS 5301, PHYS 5501, PHYS 5701, PHYS 5702, and PHYS 8102. In the event of failure, the exam may be retaken once. If the student fails a second time, s/he is dropped from the graduate program.

Thesis:
A master’s thesis is required for students in the Thesis Track, but not for students in the Coursework Track. The thesis is based on the student’s research and approved in accordance with the policies of the Department of Physics and the Graduate School.

Contacts

Department Web Address:
https://phys.cst.temple.edu

Department Information:
Dept. of Physics
406 Science and Education Research Center
1925 N. 12th Street
Philadelphia, PA 19122-1801
physics@temple.edu
215-204-7634

Submission Address for Application Materials:
https://apply.temple.edu/CST/

Department Contacts:
Admissions Chair:
Xifan Wu
xifan.wu@temple.edu
215-204-7627

Graduate Chair:
Andreas Metz
andreas.metz@temple.edu
215-204-7668

Chair:
James Napolitano
napolj@temple.edu
215-204-7827

Physics, Ph.D.

COLLEGE OF SCIENCE AND TECHNOLOGY (https://cst.temple.edu)


About the Program

The objective of the Ph.D. program in Physics is to provide both a broad understanding of foundational areas of Physics and intensive training and experience in an important area of current research. A primary requirement for the degree is an original and significant research contribution, which is presented in the Ph.D. dissertation.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Job Prospects: The program is intended to produce well-trained physicists, who are qualified for careers as research scientists in government and industrial laboratories or as university faculty members.

Non-Matriculated Student Policy: Non-matriculated students are restricted to taking the following courses:

<table>
<thead>
<tr>
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<td></td>
</tr>
<tr>
<td>PHYS 5301</td>
<td>Electromagnetic Theory</td>
<td></td>
</tr>
<tr>
<td>PHYS 5501</td>
<td>Mathematical Physics I</td>
<td></td>
</tr>
</tbody>
</table>

If the student applies to and is accepted into the program, the courses taken, up to 9 credits, may be applied toward the degree requirements.

Financing Opportunities: Financial aid is available in the form Teaching and Research Assistantships. The principal duties of a Teaching Assistant include laboratory instruction, grading of lab reports, and tutoring of students enrolled in introductory physics courses. Research Assistants are assigned to a faculty member, typically the thesis advisor, who is engaged in an externally funded research project and who determines the students’ duties. Both Teaching and Research Assistantships provide tuition, a stipend for living expenses, and health insurance.

Admission Requirements and Deadlines

Application Deadline:
Fall: March 1; December 15 international
Spring: November 1; August 1 international

Applications are reviewed as they are received throughout the year. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained from college/university faculty members or scientists familiar with the applicant's academic and scientific capabilities.

Coursework Required for Admission Consideration: Applicants should have successfully completed coursework typically required for a bachelor’s degree in Physics.

Master's Degree in Discipline/Related Discipline: A master's degree is not required.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree in Physics is typically required. A certified transcript is required from each institution previously attended by the applicant.
Statement of Goals: One to two pages address the applicant’s specific interest in Temple’s program, research and career goals, and academic and research achievements.

Standardized Test Scores:
GRE: General Test required. Subject Test in Physics strongly recommended, but not required.

For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:
TOEFL: 79 iBT or 550 PBT minimum
IELTS: 6.5 minimum
PTE Academic: 53 minimum

Transfer Credit: Graduate credits from an accredited institution may be transferred into the program. The credits must be equivalent to coursework offered at Temple, and the grade must be a “B” or better in order to transfer. The Graduate Program Committee must approve all requests for transfer credit. The maximum number of credits a student may transfer is 6.

Advanced Standing: Students who enter the Ph.D. program in Physics with a master’s degree in Physics or a closely related field may be considered for advanced standing. The Graduate Program Committee recommends the awarding of advanced standing on a case-by-case basis. The maximum number of advanced standing credits awarded is 33.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 42

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 5002</td>
<td>Physics Research and Ethics</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 5101</td>
<td>Analytical Mechanics I</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 5301</td>
<td>Electromagnetic Theory</td>
<td>6</td>
</tr>
<tr>
<td>&amp; PHYS 5302</td>
<td>and Electromagnetic Theory</td>
<td></td>
</tr>
<tr>
<td>PHYS 5501</td>
<td>Mathematical Physics I</td>
<td>6</td>
</tr>
<tr>
<td>&amp; PHYS 5502</td>
<td>and Mathematical Physics II</td>
<td></td>
</tr>
<tr>
<td>PHYS 5701</td>
<td>Quantum Mechanics I</td>
<td>6</td>
</tr>
<tr>
<td>&amp; PHYS 5702</td>
<td>and Quantum Mechanics II</td>
<td></td>
</tr>
<tr>
<td>PHYS 8001</td>
<td>Practicum Teaching of Physics</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 8102</td>
<td>Statistical Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 8701</td>
<td>Advanced Quantum Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 8702</td>
<td>Solid State Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 8703</td>
<td>Introduction to Elementary Particles</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 9994</td>
<td>Preliminary Examination Preparation</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 9998</td>
<td>Pre-Dissertation Research / Elevation to Candidacy</td>
<td>6</td>
</tr>
<tr>
<td>or PHYS 9999</td>
<td>Dissertation Research</td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours: 42

1 Students typically take PHYS 9994 in the third academic term of full-time study.

2 The combined number of credits for PHYS 9998 and PHYS 9999 must be at least 6, with a minimum of 2 of those credits required to be in PHYS 9999.

Culminating Events:

Preliminary Examination:
For elevation to candidacy for the Ph.D. degree, the student must pass a written and oral preliminary examination covering undergraduate and master’s level physics. The written part of the exam is typically taken in the summer at the end of the first year of study on information from six core courses: PHYS 5101, PHYS 5301, PHYS 5501, PHYS 5701, PHYS 5702, and PHYS 8102. The oral part, also known as the Early Research Progress Exam, is usually taken at the end of the fifth term of study. In the event of failure, the exam may be retaken once. If the student fails a second time, s/he is dropped from the graduate program.

Dissertation:
A topic for the Ph.D. dissertation is selected in consultation with a faculty member who agrees to serve as the dissertation supervisor. For elevation to candidacy, the student must submit a dissertation proposal that meets the approval of the Graduate Program Committee and the Graduate School. The completed dissertation is submitted to the department before the final examination, in which the dissertation is presented and defended by the candidate in an oral examination.

Contacts

Department Web Address:
https://phys.cst.temple.edu

Department Information:
Dept. of Physics
406 Science and Education Research Center
1925 N. 12th Street
Philadelphia, PA 19122-1801
physics@temple.edu
215-204-7634

Submission Address for Application Materials:
https://apply.temple.edu/CST/

Department Contacts:

Admissions Chair:
Xifan Wu
xifan.wu@temple.edu
215-204-7627

Graduate Chair:
Andreas Metz
andreas.metz@temple.edu
215-204-7668

Chair:
James Napolitano
napolj@temple.edu
215-204-7827
Scientific Writing, P.S.M.

COLLEGE OF SCIENCE AND TECHNOLOGY (https://cst.temple.edu)


About the Program

In science, the ability to write clearly and succinctly is a skill in demand by organizations as diverse as non-profit organizations, pharmaceutical companies, and news outlets. The primary objective of the P.S.M. in Scientific Writing program is to enable students with diverse backgrounds in science, technology, engineering, and mathematics (STEM) to develop the expertise to pursue medical and scientific writing jobs in the STEM fields. In addition, individuals currently employed in STEM areas are offered the opportunity to enhance and broaden their skills for their professional advancement. The Scientific Writing P.S.M. program offers specific and focused instruction in a wide range of scientific writing genres, as well as enables students to develop their communication skills. Students also experience scientific writing in practice, both through classroom instruction and an internship that provides an opportunity for direct training by directors of regulatory affairs in pharmaceutical companies, medical writers, practicing scientists, professionals working for scientific/medical journals, publishers, and the like. The program is a collaborative effort of Temple faculty in the College of Science and Technology and the Lew Klein College of Media and Communication. Students may satisfy the degree requirements by also taking electives in Engineering, English, Health Policy and Management, Marketing, Pharmacy Quality Assurance, Philosophy, and Statistics.

Time Limit for Degree Completion: 3 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: The degree program is inherently interdisciplinary in commingling science coursework with writing coursework.

Accreditation: Temple University is fully accredited by the Middle States Commission on Higher Education.

Areas of Specialization: The Scientific Writing P.S.M. program offers two concentrations:

• Marketing/Regulatory Writing
• Popular Scientific Writing

Job Prospects: Recent data from the United States Labor Department, Bureau of Labor Statistics, shows that technical writer jobs are growing at a faster rate than medical scientist jobs. Graduates of the Scientific Writing P.S.M. program are prepared to use scientific writing skills in all relevant areas, including the STEM disciplines, Contract Research Organizations (CRO), public health and policy, and science communications.

Non-Matriculated Student Policy: Non-matriculated students may enroll in a total of three courses (9 credits) with permission of the instructor and the Biology Department.

Financing Opportunities: Financial assistance in the form of Research or Teaching Assistantships is not offered at this time.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1; December 15 international
Spring: November 1; September 1 international

Applications are processed on a continual basis. Ordinarily, the applicant is informed of an admissions decision within four to six weeks of receipt of all supporting application documents. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 3

From Whom: Letters should be obtained from college/university faculty or faculty who are familiar with the applicant's competency. If the applicant has an established career in a related field, the applicant's immediate supervisor should provide one of the letters.

Coursework Required for Admission Consideration: Applicants should have a strong background in one or more STEM fields: Science, Technology, Engineering, and Mathematics.

Bachelor's Degree in Discipline/Related Discipline: The Scientific Writing P.S.M. program has been designed for professionals who have a bachelor's degree or equivalent in a STEM field.

Statement of Goals: In approximately 500 to 1,000 words, specify your interest in the Scientific Writing P.S.M. program, your career goals, and your academic and professional achievements.

Standardized Test Scores:

GRE: Optional. If scores are submitted, a combined minimum score of 305 on the quantitative and verbal reasoning sections is expected.

TOEFL: 90 iBT or 575 PBT minimum

Interview: An in-person or SKYPE interview is required.

Transfer Credit: Graduate credits from an accredited institution may be transferred into the Scientific Writing P.S.M. program. The credits must be equivalent to coursework offered by the Biology Department at Temple University. A grade of "B" or better must have been earned for the credits to transfer. The P.S.M. in Scientific Writing Steering Committee makes recommendations to the Department Chair for transferring credit on an individual basis. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 5505</td>
<td>Ethics Regulation and Policy in Biotechnology</td>
<td>3</td>
</tr>
</tbody>
</table>
BIOL 5522 Introduction to Scientific and Regulatory Writing 3
BIOL 5532 Introduction to Grant Writing 3
BIOL 5533 Communicating Science to a Broader Audience / Non-Scientists 3
JRN 5002 Reporting and Writing I 4
Electives 1 12
Capstone Course
BIOL 9995 Capstone Project 2
Total Credit Hours 30

1 Electives may be selected in one of two areas of concentration, as delineated below, or drawn from any scientific STEM discipline. The latter allows students to choose from a wide spectrum of topics but to concentrate in any one field that is their professional interest and ensures that they are exposed to the diverse writing currently being done in the sciences. Any graduate-level course offered by the College of Science and Technology is acceptable as an elective, and students may petition the P.S.M. Program Director to include graduate-level courses taught at Temple in a related scientific area. Currently approved electives are identified in the three course lists below.

Marketing/Regulatory Writing Concentration

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Select from the following courses:</td>
<td>12</td>
</tr>
<tr>
<td>QARA 5502</td>
<td>Regulation of Medical Devices: Submissions</td>
<td></td>
</tr>
<tr>
<td>QARA 5533</td>
<td>Requirements for Product Labeling and Advertising</td>
<td></td>
</tr>
<tr>
<td>QARA 5534</td>
<td>Regulatory Aspects of Biomedical/Technical Communication</td>
<td></td>
</tr>
<tr>
<td>QARA 5545</td>
<td>Post Approval Changes (PAC)</td>
<td></td>
</tr>
<tr>
<td>QARA 5548</td>
<td>Risk Management of Pharmaceutical and Medical Devices</td>
<td></td>
</tr>
<tr>
<td>QARA 5592</td>
<td>Food and Drug Law</td>
<td></td>
</tr>
<tr>
<td>QARA 5594</td>
<td>Regulation of Dietary Supplements and Functional Foods</td>
<td></td>
</tr>
<tr>
<td>QARA 5596</td>
<td>Food Labeling and Regulatory Affairs</td>
<td></td>
</tr>
<tr>
<td>QARA 5611</td>
<td>Regulation of Advertising and Promotions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total Credit Hours</td>
<td>12</td>
</tr>
</tbody>
</table>

Popular Scientific Writing Concentration

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Select from the following courses:</td>
<td>12</td>
</tr>
<tr>
<td>BIOL 5111</td>
<td>Genomics in Medicine</td>
<td></td>
</tr>
<tr>
<td>BIOL 5312</td>
<td>Biostatistics</td>
<td></td>
</tr>
<tr>
<td>BIOL 82X0</td>
<td>Seminar in Genomics Analytics 1</td>
<td></td>
</tr>
<tr>
<td>CHEM 8201</td>
<td>The Chemistry of Natural Products 1</td>
<td></td>
</tr>
<tr>
<td>ENG 9400</td>
<td>Seminar in Rhetoric and Composition</td>
<td></td>
</tr>
<tr>
<td>HPM 8008</td>
<td>Health Economics</td>
<td></td>
</tr>
<tr>
<td>JRN 5003</td>
<td>Law</td>
<td></td>
</tr>
<tr>
<td>JRN 5005</td>
<td>Communication Law</td>
<td></td>
</tr>
<tr>
<td>JRN 5012</td>
<td>Reporting and Writing II</td>
<td></td>
</tr>
<tr>
<td>JRN 5013</td>
<td>Editing the News II</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total Credit Hours</td>
<td>12</td>
</tr>
</tbody>
</table>

1 Students in the Popular Scientific Writing concentration are required to take two of these identified courses.

Other Approved Electives

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>If desired, select one of these approved electives to replace one course in the chosen concentration:</td>
<td></td>
</tr>
<tr>
<td>BIOL 5111</td>
<td>Genomics in Medicine</td>
<td></td>
</tr>
<tr>
<td>BIOL 5312</td>
<td>Biostatistics</td>
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<tr>
<td>BIOL 82X0</td>
<td>Seminar in Genomics Analytics 1</td>
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<td>Seminar in Rhetoric and Composition</td>
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</tr>
<tr>
<td>HPM 8008</td>
<td>Health Economics</td>
<td></td>
</tr>
<tr>
<td>HRPR 8101</td>
<td>Bioethics and Ethical Decision-Making</td>
<td></td>
</tr>
<tr>
<td>MKTG 5001</td>
<td>Marketing Management/Strategy</td>
<td></td>
</tr>
<tr>
<td>PHIL 5216</td>
<td>Philosophy of Science</td>
<td></td>
</tr>
<tr>
<td>PHIL 5249</td>
<td>Ethics in Medicine</td>
<td></td>
</tr>
<tr>
<td>STAT 5001</td>
<td>Quantitative Methods for Business</td>
<td></td>
</tr>
</tbody>
</table>

Additional Requirements:

All graduate-level courses must be passed with a “B-” or better.

Attendance at scheduled departmental colloquia is required.

Culminating Events:

Capstone Project:

BIOL 9995 Capstone Project constitutes a culminating event of the Scientific Writing P.S.M. and requires the submission of a detailed technical paper and oral presentation. In the summer following the first year of study, students are expected to complete an internship, which becomes part of their capstone project. The internship must take place in a workplace approved by the P.S.M. Steering Committee, which includes faculty from the College of Science and Technology, Lew Klein College of Media and Communication, and the Provost’s Office. Workplaces may include a patent law office specializing in chemical, engineering, and scientific innovation; a practicing scientist; a publishing company; or any other relevant workplace on or off Temple’s campus.

Contacts

Program Web Address:

http://sciwrpsm.cst.temple.edu/

Department Information:

Dept. of Biology
255 Biology-Life Sciences Building
1900 N. 12th Street
Graduate Certificate: Bioinformatics

COLLEGE OF SCIENCE AND TECHNOLOGY (https://cst.temple.edu)

Learn more about the graduate certificate in Bioinformatics (https://www.temple.edu/academics/degree-programs/bioinformatics-certificate-graduate-st-binf-grad).

About the Certificate

Bioinformatics is the science that happens when computers are joined with the latest discoveries in biochemistry, biophysics, and genomics. It is a rapidly growing field that brings together elements of biology, chemistry, computer science, physics, and statistics. Bioinformatics is an area of rapid job growth and has become an essential part of healthcare research and the biotechnology and pharmaceutical industries. Bioinformatics specialists are employed to process and analyze the high volume of genomic and proteomic data generated from large-scale sequencing and related efforts that form the foundation of personalized medicine.

The Bioinformatics graduate certificate program provides a mechanism to obtain a certificate in the field in one or two academic terms because only 12 credits of core coursework are required. The classes are taught by the same faculty as those for the Bioinformatics P.S.M. program. Certificate students take the same core courses as P.S.M. students but without committing to a capstone project or the full 30 credits needed to earn a graduate degree. The Bioinformatics graduate certificate program credentials students in the field through a curriculum chosen according to the student’s interest or gap in knowledge.

Time Limit for Certificate Completion: 2 years

Campus Location: Main

Full-Time/Part-Time Status: The certificate program can be completed on a full- or part-time basis.

Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits of coursework before applying to the graduate certificate program.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1

Applications are processed on a continual basis. Ordinarily, the applicant is informed of an admissions decision within four to six weeks of receipt of all supporting application documents. Late applications may be considered for admission.

International students should note that the certificate does not fulfill the F-1 visa requirement for full-time coursework. International students already enrolled in a P.S.M. or other graduate program at Temple may enroll in the certificate program, in addition to their current program, with approval from their program’s graduate advisor.

Letters of Reference:

Number Required: 3

From Whom: Letters should be obtained from college/university faculty or faculty who are familiar with the applicant’s competency. If the applicant has an established career in a related field, the applicant’s immediate supervisor should provide one of the letters.

Coursework Required for Admission Consideration: Applicants should have a strong background in one or more science, technology, engineering, or mathematics (STEM) fields.

Bachelor's Degree in Discipline/Related Discipline: The Bioinformatics graduate certificate has been designed for recent graduates and professionals who have a bachelor’s degree or equivalent in a STEM field.

Statement of Goals: In approximately 500 to 1,000 words, specify your interest in the Bioinformatics certificate, your career goals, and your academic and professional achievements.

Standardized Test Scores:

GRE: Required. A combined minimum score of 305 on the quantitative and verbal reasoning sections of the new test is expected.

Interview: An in-person or Skype interview is required.

Transfer Credit: Graduate credits from an accredited institution may be transferred into the Bioinformatics graduate certificate program. The credits must be equivalent to coursework offered by the Biology Department at Temple University. A grade of "B" or better must have been earned for the credits to transfer. The P.S.M. in Bioinformatics Steering Committee makes recommendations to the Department Chair for transferring credit on an individual basis. The maximum number of credits a student may transfer is 6.

Certificate Requirements

Number of Credits Required to Complete the Certificate: 12

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td>BIOL 5312</td>
<td>Biostatistics</td>
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<tr>
<td>BIOL 5403</td>
<td>Genomics</td>
<td></td>
</tr>
<tr>
<td>BIOL 5411</td>
<td>Structural Bioinformatics</td>
<td></td>
</tr>
</tbody>
</table>
### Contacts

**Program Web Address:**
http://bioinformatics.cst.temple.edu/

**Department Information:**
Dept. of Biology
255 Biology-Life Sciences Building
1900 N. 12th Street
Philadelphia, PA 19122-6078
hey@temple.edu
215-204-8854

**Submission Address for Application Materials:**
https://apply.temple.edu/CST/

**Department Contacts:**

*Program Co-Directors:*
Jody Hey, Ph.D.
hey@temple.edu

Ronald Levy, Ph.D.
ronlevy@temple.edu

*P.S.M. Program Coordinator:*
Seema Freer, Ph.D.
sfreer@temple.edu

### Graduate Certificate: Bioinnovation

**COLLEGE OF SCIENCE AND TECHNOLOGY** (https://cst.temple.edu)

Learn more about the graduate certificate in Bioinnovation (https://www.temple.edu/academics/degree-programs/bioinnovation-certificate-graduate-st-bioi-grad).

### About the Certificate

The primary objective of the Bioinnovation graduate certificate program is to develop a portfolio of knowledge and experience that allows individuals with a background in science, business, communication, law, and policy and regulation to pursue careers in such fast-growing fields as bioinformation, the environment, global health, pharmaceuticals and biotechnology, technology transfer, and trade. The certificate program provides:

- extensive biotechnology and biomedical background to challenge and complement traditional thinking and applications;
- review of the translational nature of biodiscoveries through classroom instruction and direct interaction with different bioindustry professionals, including scientists, lawyers, journalists, and others; and
- development of team and matrix work routines and effective communication skills.

The Bioinnovation certificate program is designed to help recent graduates obtain relevant employment or to accelerate career advancement and/or allow a career shift for currently employed professionals. The certificate is a shorter, transcripted program taken from the core requirements of the Bioinnovation P.S.M. program. Certificate students take the same core courses as P.S.M. students but without committing to a capstone project or the full 30 credits needed to earn a graduate degree. The classes are taught by the same faculty as those for the Bioinnovation P.S.M. program.

**Time Limit for Certificate Completion:** 2 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The certificate program can be completed on a full- or part-time basis.

**Non-Matriculated Student Policy:** Non-matriculated students may take up to 9 credits of coursework before applying to the graduate certificate program.

### Admission Requirements and Deadlines

**Application Deadline:**

*Fall:* March 1

Applications are processed on a continual basis. Ordinarily, the applicant is informed of an admissions decision within four to six weeks of receipt of all supporting application documents. Late applications may be considered for admission.

International students should note that the certificate does not fulfill the F-1 visa requirement for full-time coursework. International students already enrolled in a P.S.M. or other graduate program at Temple may enroll in the certificate program, in addition to their current program, with approval from their program’s graduate advisor.

**Letters of Reference:**

*Number Required:* 3

*From Whom:* Letters should be obtained from college/university faculty or faculty who are familiar with the applicant’s competency. If the applicant has an established career in a related field, the applicant’s immediate supervisor should provide one of the letters.

**Coursework Required for Admission Consideration:** Applicants should have a strong background in one or more of the following fields: science, business, communication, law, or policy and regulation. Upon review, the P.S.M. in Bioinnovation Steering Committee may allow departures from course requirements.

**Bachelor’s Degree in Discipline/Related Discipline:** A baccalaureate degree in Biology, Chemistry, Business, or Communication, or a Juris Doctor in Law (or foreign equivalent) is required. Non-STEM graduates are required to enroll in at least two Biology foundation courses, as recommended by the P.S.M. in Bioinnovation Steering Committee, on a non-matriculated basis.

**Statement of Goals:** In approximately 500 to 1,000 words, specify your interest in the Bioinnovation certificate, your career goals, and your academic and professional achievements.
Standardized Test Scores:
GRE: Required. A combined minimum score of 305 on the quantitative and verbal reasoning sections of the new test is expected.

Interview: An in-person or Skype interview is required.

Transfer Credit: Graduate credits from an accredited institution may be transferred into the Bioinnovation graduate certificate program. The credits must be equivalent to coursework offered by the Biology Department at Temple University. A grade of "B" or better must have been earned for the credits to transfer. The P.S.M. in Bioinnovation Steering Committee makes recommendations to the Department Chair for transferring credit on an individual basis. The maximum number of credits a student may transfer is 6.

Certificate Requirements

Number of Credits Required to Complete the Certificate: 12

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td>BIOL 5226</td>
<td>Innovative Biomodels and Concepts</td>
<td></td>
</tr>
<tr>
<td>BIOL 5227</td>
<td>Biomarkers and Biotargets: Research and Commercialization</td>
<td></td>
</tr>
<tr>
<td>BIOL 5228</td>
<td>Epigenetics, Genetics: Applications in Drug Design and Drug Response</td>
<td></td>
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<tr>
<td>BIOL 5229</td>
<td>Systems Biology: Principles and Applications</td>
<td></td>
</tr>
<tr>
<td>BIOL 5505</td>
<td>Ethics Regulation and Policy in Biotechnology</td>
<td></td>
</tr>
<tr>
<td>BIOL 5239</td>
<td>Dissemination of Biodiscoveries and Virtual Reality in Medicine</td>
<td></td>
</tr>
<tr>
<td>SGM 5136</td>
<td>Principles of Strategy and Management</td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours 12

Contacts

Program Web Address:
http://bioinnopsm.cst.temple.edu

Department Information:
Dept. of Biology
255 Biology-Life Sciences Building
1900 N. 12th Street
Philadelphia, PA 19122-6078
sfreer@temple.edu
215-204-0306

Submission Address for Application Materials:
https://apply.temple.edu/CST/

Department Contacts:
Program Director:
Antonio Giordano
Professor of Biology
giordano@temple.edu
215-204-9521

Academic Advisor, Bioinnovation P.S.M. Program:
Marcella Macaluso
Associate Professor of Biology
macaluso@temple.edu
215-204-9523

Assistant Director, P.S.M. Programs:
Seema Freer
Associate Professor of Biology
sfreer@temple.edu
215-204-8842

Graduate Certificate: Biotechnology

COLLEGE OF SCIENCE AND TECHNOLOGY (https://cst.temple.edu)

Learn more about the graduate certificate in Biotechnology (https://www.temple.edu/academics/degree-programs/biotechnology-certificate-graduate-st-biot-grad).

About the Certificate

Biotechnology is, at its simplest, technology based on biology. It harnesses cellular and biomolecular processes to develop technologies and products that help improve our lives and the health of our planet. Modern biotechnology provides breakthrough products and technologies to combat debilitating and rare diseases; reduce our environmental footprint; feed the hungry; use less and cleaner energy; and have safer, cleaner, and more efficient industrial manufacturing processes. Recent advances in biotechnology are helping us prepare for and meet society’s most pressing challenges.

The Biotechnology graduate certificate program provides a mechanism to obtain a certificate in the field in one or two academic terms because only 12 credits of core coursework are required. The classes are taught by the same faculty as those for the Biotechnology P.S.M. program. Certificate students take the same core courses as P.S.M. students but without committing to a capstone project or the full 30 credits needed to earn a graduate degree. The Biotechnology graduate certificate program credentials future leaders in the field through a curriculum chosen according to the student’s interest.

Time Limit for Certificate Completion: 2 years

Campus Location: Main

Full-Time/Part-Time Status: The certificate program can be completed on a full- or part-time basis.

Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits of coursework before applying to the graduate certificate program.

Admission Requirements and Deadlines

Application Deadline:
Fall: March 1

Applications are processed on a continual basis. Ordinarily, the applicant is informed of an admissions decision within four to six weeks of receipt of all supporting application documents. Late applications may be considered for admission.
International students should note that the certificate does not fulfill the F-1 visa requirement for full-time coursework. International students already enrolled in a P.S.M. or other graduate program at Temple may enroll in the certificate program, in addition to their current program, with approval from their program’s graduate advisor.

Letters of Reference:
Number Required: 3

From Whom: Letters should be obtained from college/university faculty, preferably those in laboratory science areas, who are familiar with the applicant’s academic and/or research abilities.

Coursework Required for Admission Consideration: Applicants should have a strong background in Biology, Chemistry, Engineering, or Physics. Upon review, the Biology Department’s Graduate Committee may allow departures from course requirements.

Bachelor’s Degree in Discipline/Related Discipline: A baccalaureate degree in a science or engineering field is required.

Statement of Goals: In approximately 500 to 1,000 words, specify your interest in the Biotechnology certificate, your research goals, and your academic and professional achievements.

Standardized Test Scores:
GRE: Required. A combined minimum score of 305 on the quantitative and verbal reasoning sections of the new test is expected.

Certificate Requirements
Number of Credits Required to Complete the Certificate: 12

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
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<th>Credit Hours</th>
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<tr>
<td>BIOL 5479</td>
<td>Biotechnology</td>
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<tr>
<td>BIOL 5501</td>
<td>Analytical Biotechnology</td>
<td></td>
</tr>
<tr>
<td>BIOL 5502</td>
<td>Microbial Biotechnology</td>
<td></td>
</tr>
<tr>
<td>BIOL 5503</td>
<td>Biotechnology Laboratory I</td>
<td></td>
</tr>
<tr>
<td>BIOL 5504</td>
<td>Biotechnology Laboratory II</td>
<td></td>
</tr>
<tr>
<td>BIOL 5505</td>
<td>Ethics Regulation and Policy in Biotechnology</td>
<td></td>
</tr>
<tr>
<td>BIOL 5521</td>
<td>Nucleic Acid Technologies</td>
<td></td>
</tr>
<tr>
<td>CEE 5793</td>
<td>Environmental Biotechnology</td>
<td></td>
</tr>
</tbody>
</table>

1 Four courses are required if all courses are taken for 3 credits. These include BIOL 5479, BIOL 5502, BIOL 5503, BIOL 5504, BIOL 5505, and CEE 5793. Five courses are taken if BIOL 5501 Analytical Biotechnology (1.5 s.h.) and BIOL 5521 Nucleic Acid Technologies (1.5 s.h.) are selected.

Contacts
Program Web Address: http://biotechpsm.cst.temple.edu/

Department Information:
Dept. of Biology
255 Biology-Life Sciences Building

Graduate Certificate: Computer Science
COLLEGE OF SCIENCE AND TECHNOLOGY (https://cst.temple.edu)

Learn more about the graduate certificate in Computer Science (https://www.temple.edu/academics/degree-programs/computer-science-certificate-graduate-st-csci-grad).

About the Certificate
The graduate certificate in Computer Science is designed to meet the professional needs of individuals in the workforce who require advanced training and advanced competencies in computer science. Students who complete the certificate program have the option of enrolling in the M.S. program in Computer Science and having their coursework in which they earned a grade of “B” or higher count toward the master’s degree.

Campus Location: Main

Full-Time/Part-Time Status: The graduate certificate can be completed on a part-time basis.

Non-Matriculated Student Policy: Students can take up to 9 credits on a non-matriculated basis. When they complete 9 credits, they must declare their intention to complete the graduate certificate in Computer Science by completing and submitting the “Non-Degree Seeking Student Request to Exceed 9 Credits of Graduate Coursework for Certificate Program,” found in TUportal under the Tools tab within “University Forms.”

Admission Requirements and Deadlines

Bachelor’s Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Certificate Requirements
Number of Credits Required to Complete the Certificate: 12

Required Courses:
**Contacts**

**Department Web Address:**
https://cis.temple.edu/programs/cs

**Department Information:**
Dept. of Computer and Information Sciences
313 Science and Education Research Center
1925 N. 12th Street
Philadelphia, PA 19122-1801
cisadmit@temple.edu
215-204-8450

**Mailing Address for Application Materials:**
Dept. of Computer and Information Sciences
313 Science and Education Research Center (035-10)
1925 N. 12th Street
Philadelphia, PA 19122-1801

**Department Contacts:**
Admissions:
- Graduate Administrative Coordinator
cisadmit@temple.edu
  215-204-8450

- Graduate Advisor:
  Tony Hughes
  anthony.hughes@temple.edu
  215-204-7910

- Graduate Chairperson:
  Eduard Dragut
  edragut@temple.edu
  215-204-0521

- Department Chairperson:
  Jamie Payton
  jamie.payton@temple.edu
  215-204-8245

**Graduate Certificate: Information Science and Technology**

COLLEGE OF SCIENCE AND TECHNOLOGY (https://cst.temple.edu)

Learn more about the graduate certificate in Information Science and Technology (https://www.temple.edu/academics/degree-programs/information-science-and-technology-certificate-graduate-st-ist-grad).

**About the Certificate**

The graduate certificate in Information Science and Technology is designed to meet the professional needs of individuals in the workforce who require advanced training and advanced competencies in computer science. Students who complete the certificate program have the option of enrolling in the M.S. program in Information Science and Technology and having their coursework in which they earned a grade of “B” or higher count toward the master's degree.

**Campus Location:** Main

**Full-Time/Part-Time Status:** The graduate certificate can be completed on a part-time basis.

**Non-Matriculated Student Policy:** Students can take up to 9 credits on a non-matriculated basis. When they complete 9 credits, they must declare their intention to complete the graduate certificate in Information Science and Technology by completing and submitting the "Non-Degree Seeking Student Request to Exceed 9 Credits of Graduate Coursework for Certificate Program," found in TUportal under the Tools tab within "University Forms."

**Admission Requirements and Deadlines**

**Bachelor's Degree in Discipline/Related Discipline:** All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

**Certificate Requirements**

**Number of Credits Required to Complete the Certificate:** 15

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>CIS 5002</td>
<td>Database Design &amp; Programming</td>
<td>3</td>
</tr>
<tr>
<td>CIS 5011</td>
<td>Programming and Data Structure</td>
<td>3</td>
</tr>
<tr>
<td>CIS 5015</td>
<td>Scripting for Sciences and Business</td>
<td>3</td>
</tr>
<tr>
<td>CIS 5016</td>
<td>Data Structures and Objects</td>
<td>3</td>
</tr>
<tr>
<td>CIS 5017</td>
<td>Operating Systems and Architecture</td>
<td>3</td>
</tr>
<tr>
<td>CIS 5018</td>
<td>Emerging Technologies</td>
<td>3</td>
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<tr>
<td>CIS 5020</td>
<td>Knowledge Management</td>
<td>3</td>
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<tr>
<td>CIS 5021</td>
<td>Seminar in Information Science and Technology</td>
<td>3</td>
</tr>
<tr>
<td>CIS 5024</td>
<td>Software Quality Assurance and Testing</td>
<td>3</td>
</tr>
<tr>
<td>CIS 5025</td>
<td>Software Project Management</td>
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<td>CIS 5031</td>
<td>Advanced Database Management Systems</td>
<td>3</td>
</tr>
<tr>
<td>CIS 5033</td>
<td>Usability Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CIS 5034</td>
<td>Network Technologies</td>
<td>3</td>
</tr>
<tr>
<td>CIS 5036</td>
<td>Software Engineering</td>
<td>3</td>
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<tr>
<td>CIS 5045</td>
<td>Introduction to Digital Forensics</td>
<td>3</td>
</tr>
<tr>
<td>CIS 5046</td>
<td>Advanced Seminar in Information Science and Technology</td>
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<tr>
<td>CIS 5047</td>
<td>Ethical Hacking and Intrusion Forensics</td>
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</tr>
<tr>
<td>CIS 5048</td>
<td>Audit and Compliance for Security and Digital Forensics</td>
<td>3</td>
</tr>
<tr>
<td>CIS 5512</td>
<td>Operating Systems</td>
<td>3</td>
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<tr>
<td>CIS 5513</td>
<td>Automata and Formal Languages</td>
<td>3</td>
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<tr>
<td>CIS 5515</td>
<td>Design and Analysis of Algorithms</td>
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</tbody>
</table>
CIS 5516 Principles of Data Management
CIS 5517 Data-Intensive and Cloud Computing
CIS 5523 Knowledge Discovery and Data Mining
CIS 5524 Analysis and Modeling of Social and Information Networks
CIS 5525 Neural Computation
CIS 5526 Machine Learning
CIS 5527 Data Warehousing, Filtering and Mining
CIS 5535 Probabilistic Graph Models
CIS 5538 Text Mining and Language Processing
CIS 5543 Computer Vision
CIS 5590 Topics in Computer Science
CIS 5603 Artificial Intelligence
CIS 5617 Computer Networking and Communication
CIS 5618 Energy Management in Data Centers and Beyond
CIS 5635 Security in Cyber-Physical Systems
CIS 5636 Ad Hoc Networks
CIS 5637 Network & Information Security
CIS 5639 Wireless Network and Communication
CIS 5642 Computer Architecture
CIS 5643 Emerging Storage Systems and Technologies
CIS 5644 Distributed Systems

Total Credit Hours 15

1 The course list is not exhaustive. Students may select alternate courses with the approval of an advisor.

Contacts

Department Web Address:
https://cis.temple.edu/programs/msist

Department Information:
Dept. of Computer and Information Sciences
313 Science and Education Research Center
1925 N. 12th Street
Philadelphia, PA 19122-1801
cisadmit@temple.edu
215-204-8450

Mailing Address for Application Materials:
Dept. of Computer and Information Sciences
313 Science and Education Research Center (035-10)
1925 N. 12th Street
Philadelphia, PA 19122-1801

Department Contacts:
Admissions:
Graduate Administrative Coordinator
cisadmit@temple.edu
215-204-8450

Graduate Advisor:
Tony Hughes
anthony.hughes@temple.edu
215-204-7910

Graduate Chairperson:
Eduard Dragut
edragut@temple.edu
215-204-0521

Department Chairperson:
Jamie Payton
jamie.payton@temple.edu
215-204-8245

Graduate Certificate: Scientific Writing

COLLEGE OF SCIENCE AND TECHNOLOGY (https://cst.temple.edu)

Learn more about the graduate certificate in Scientific Writing (https://www.temple.edu/academics/degree-programs/scientific-writing-certificate-graduate-st-scwr-grad).

About the Certificate
In science, the ability to write clearly and succinctly is a skill in demand by organizations as diverse as non-profit organizations, pharmaceutical companies, and news outlets. The graduate certificate in Scientific Writing enables students with diverse backgrounds in science, technology, engineering, and mathematics (STEM) currently employed in those areas to enhance and broaden their skills for their professional advancement. The certificate is a collaborative effort of the College of Science and Technology and the Lew Klein College of Media and Communication.

Campus Location: Main

Full-Time/Part-Time Status: The graduate certificate can be completed on a part-time basis.

Non-Matriculated Student Policy: Students can take up to 9 credits on a non-matriculated basis. When they complete 9 credits, they must declare their intention to complete the graduate certificate in Scientific Writing by completing and submitting the “Non-Degree Seeking Student Request to Exceed 9 Credits of Graduate Coursework for Certificate Program,” found in TUportal under the Tools tab within “University Forms.”

Admission Requirements and Deadlines

Bachelor's Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Certificate Requirements
Number of Credits Required to Complete the Certificate: 13

Required Courses:

<table>
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<tr>
<th>Code</th>
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<th>Credit Hours</th>
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<td>BIOL 5505</td>
<td>Ethics Regulation and Policy in Biotechnology</td>
<td>3</td>
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<tr>
<td>BIOL 5522</td>
<td>Introduction to Scientific and Regulatory Writing</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 5532</td>
<td>Introduction to Grant Writing</td>
<td>3</td>
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JRN 5002 Reporting and Writing I 4
Total Credit Hours 13

Contacts
Certificate Program Address:
http://sciwrpsm.cst.temple.edu/curriculum/certificate

Department Information:
Dept. of Biology
255 Biology-Life Sciences Building
1900 N. 12th Street
Philadelphia, PA 19122-6078
karen.palter@temple.edu
215-204-5588

Mailing Address for Application Materials:
Scientific Writing Certificate Program
340 Carnell Hall (041-03)
1803 N. Broad Street
Philadelphia, PA 19122-6104

Department Contacts:
Program Director:
Karen Palter, Ph.D.
karen.palter@temple.edu
School of Sport, Tourism and Hospitality Management

Our industries are rooted in deep professional networks, first-class service, and access to opportunities. So are we, the School of Sport, Tourism and Hospitality Management (STHM) at Temple University. STHM is the largest provider of tourism, hospitality, sport, and recreation management education in the Philadelphia region and an international model for innovative teaching and research. Through classroom instruction, experiential learning, and executive education, we prepare talented professionals and scholars for rewarding careers.

Temple University began its long and distinguished record of professional preparation in the fields of recreation, sport, tourism, and hospitality in 1908, when courses were offered in playground supervision through its Physical Education program. By the 1950s, Temple was offering programs in recreation education at both the undergraduate and graduate levels. In 1973, a curriculum in Recreation and Leisure Studies was established. The bachelor's degree in Sport and Recreation Management was first accredited in 1978 by the Council on Accreditation of Parks, Recreation, Tourism and Related Professions (COAPRT), with reaccreditation of academic programs every 5 years since. As a result, Temple University was one of the first to have its programs accredited through the National Recreation and Parks Association (NRPA).

STHM is ideally located in Philadelphia, the nation's sixth-largest city and a living laboratory for the sport, recreation, tourism, and hospitality industries. As a premier destination for visitors from around the world, Philadelphia is home to 13,000 Center City hotel rooms; over 700 Zagat-rated restaurants; a thriving and growing casino and gaming scene; the Pennsylvania Convention Center; and countless attractions such as Independence Hall, the Liberty Bell, the National Constitution Center, the Philadelphia Museum of Art, and the Philadelphia Zoo. The city provides innumerable opportunities for applied learning with access to all five major sports through the Eagles, Flyers, Phillies, Sixers, and Union, as well as a host of major national and international sporting events such as the Army-Navy game, March Madness basketball, U.S. Olympic trials, and the X-Games. Philadelphia also has one of the country's most active parks and recreation departments and the world's largest urban park in Fairmount Park.

The mission of STHM is to:

- Enrich the tourism, hospitality, recreation, and sport industries by fostering diversity and inclusion;
- Meet the leadership needs of the tourism, hospitality, recreation, and sport industries by providing quality, student-centered, professional preparation programs;
- Advance knowledge in tourism, hospitality, recreation, and sport by conducting high level research;
- Enhance the tourism, hospitality, recreation, and sport management professions by offering quality service to relevant organizations; and
- Educate the Temple University community about the significance of tourism, hospitality, recreation, and sport in today's multicultural society by offering courses in general education, collaborating with other faculty on joint research projects, and serving on relevant committees.

Programs

Degree Programs and Certificates

- Hospitality Management, M.S. (p. 797)
- Sport Business, M.S. (p. 799)
- Sport Business Executive Program, M.S. (p. 801)
- Tourism and Hospitality Management Executive Program, M.T.H.M. (p. 802)
- Travel and Tourism, M.S. (p. 802)
- Graduate Certificate: Destination Management (p. 804)
- Graduate Certificate: Global Tourism (p. 804)
- Graduate Certificate: Tourism Analytics (p. 805)

Graduate Faculty

Elizabeth H. Barber, Associate Professor, Department of Tourism and Hospitality Management, School of Sport, Tourism and Hospitality Management; Ph.D., University of Iowa.

Joris Drayer, Associate Professor, Department of Sport and Recreation Management, School of Sport, Tourism and Hospitality Management; Ph.D., University of Northern Colorado.

Daniel C. Funk, Professor, Department of Sport and Recreation Management, School of Sport, Tourism and Hospitality Management; Ph.D., The Ohio State University.

Gareth J. Jones, Assistant Professor, Department of Sport and Recreation Management, School of Sport, Tourism and Hospitality Management; Ph.D., North Carolina State University.

Jeremy S. Jordan, Associate Professor, Department of Sport and Recreation Management, School of Sport, Tourism and Hospitality Management; Ph.D., The Ohio State University.

R. Aubrey Kent, Professor, Department of Sport and Recreation Management, School of Sport, Tourism and Hospitality Management; Ph.D., The Ohio State University.

Ceridwyn Ann King, Associate Professor, Department of Tourism and Hospitality Management, School of Sport, Tourism and Hospitality Management; Ph.D., Griffith University.

Thilo Kunkel, Assistant Professor, Department of Sport and Recreation Management, School of Sport, Tourism and Hospitality Management; Ph.D., Griffith University.

Xiang Li, Professor, Department of Tourism and Hospitality Management, School of Sport, Tourism and Hospitality Management; Ph.D., Texas A and M University.

Lu Lu, Assistant Professor, Department of Tourism and Hospitality Management, School of Sport, Tourism and Hospitality Management; Ph.D., University of Washington.

Joseph E. Mahan III, Associate Professor (Teaching/Instructional), Department of Sport and Recreation Management, School of Sport, Tourism and Hospitality Management; Ph.D., University of Maryland College Park.
The program encourages interdisciplinary study; a full- or part-time basis.

Areas of Specialization: Three concentrations are offered:

- Event Management
- Hospitality Operations Management
- Tourism and Hospitality Marketing

Job Prospects: Students typically find placements in convention and visitor bureaus, event management companies, convention centers, hotels, and resorts.

Financing Opportunities: Teaching and Research Assistantships and Graduate Externships within the School of Sport, Tourism and Hospitality Management are reserved for students who are capable of teaching undergraduate classes in specialized academic areas or assisting in faculty research. Teaching Assistants (TAs), Research Assistants (RAs), and Graduate Externs (GEs) are expected to provide between 5 and 20 hours per week of service throughout the academic year. A 9-month stipend is offered along with full (9 credits) tuition remission for the Fall and Spring terms for TAs and RAs. GEs receive a stipend only.

Applications for assistantships and externships are not evaluated until a Graduate School application and all appropriate materials have been received. Assistantships and externships are available only to admitted students. The evaluation of applicants for Teaching and Research Assistantships and Graduate Externships begins by March and continues until all positions have been filled.

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1

Applications are processed as they arrive through the deadline. Late applications may be considered for admission.

APPLY ONLINE (http://fox.force.com/sthmlogin) to this STHM graduate program at http://fox.force.com/sthmlogin.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be requested from individuals who are capable and prepared to make judgments on the applicant's ability to complete graduate studies. Undergraduate faculty and advisors are the best sources. Character references are acceptable, but at least one letter should be from an individual in higher education. If undergraduate work was completed a number of years ago, this may be a difficult request; therefore, discretion should be used when selecting one's references.

Bachelor's Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Statement of Goals: In 500 words, explain your:

- Academic/professional goals
- Personal strengths that will contribute to success in the graduate program
- Personal weaknesses that may inhibit success in the program

Standardized Test Scores:

GRE, GMAT, or MAT: Minimum scores at or above the 50% range required for admission consideration, although, on average, applicant scores are in the range of 65% and above

For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required.

Chihyung Michael Ok, Associate Professor, Department of Tourism and Hospitality Management, School of Sport, Tourism and Hospitality Management; Ph.D., Kansas State University.

Wesley S. Roehl, Professor, Department of Tourism and Hospitality Management, School of Sport, Tourism and Hospitality Management; Ph.D., Texas A and M University.

Elizabeth Taylor, Assistant Professor, Department of Sport and Recreation Management, School of Sport, Tourism and Hospitality Management; Ph.D., University of Tennessee.

Luorong Wu, Assistant Professor, Department of Tourism and Hospitality Management, School of Sport, Tourism and Hospitality Management; Ph.D., The Pennsylvania State University.

Yang Yang, Assistant Professor, Department of Tourism and Hospitality Management, School of Sport, Tourism and Hospitality Management; Ph.D., University of Florida.

Hospitality Management, M.S.

SCHOOL OF SPORT, TOURISM AND HOSPITALITY MANAGEMENT (http://sthm.temple.edu)

About the Program

The goal of the M.S. program in Hospitality Management is to develop advanced professionals in the field of tourism and hospitality management. Education should enable professionals in this field to be expert managers, marketers, and planners in the public, private, and commercial sectors. The program prepares students to be middle-level and, eventually, upper-level managers in the tourism and hospitality industry. The degree program is based not only on the practical application of management techniques, but also on the theoretical foundation that defines the profession. This makes the degree program clearly distinct from generic management curricula that do not include an industry-specific core.

Students interested in studying at the doctoral level should refer to the Ph.D. program in Business Administration with a concentration in Tourism/Sport (http://bulletin.temple.edu/graduate/scd/fox/business-admin-tourism-sport-phd) offered by the Fox School of Business and Management.

Time Limit for Degree Completion: 4 years

Campus Location: Main, with business electives offered at the Center City campus or online

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Interdisciplinary Study: The program encourages interdisciplinary coursework, research, and interactions among faculty and students with interest in management, information technology, and research.

Study Abroad: Students who wish to do their internships abroad work closely with the Center for Student Professional Development, which assists with the necessary contacts and supervision.

Areas of Specialization: Three concentrations are offered:

- Event Management
- Hospitality Operations Management
- Tourism and Hospitality Marketing
TOEFL: 79 iBT or 550 PBT minimum
IELTS: 6.5 minimum
PTE Academic: 53 minimum

Resume: Current resume required

Transfer Credit: Graduate credits from an accredited institution may be transferred into the program. The credits must be equivalent to coursework offered at Temple University, and the grade must be a "B" or better in order to transfer. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:  
Number of Credits Required Beyond the Baccalaureate: 36

Required Courses:

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>THM 5311 Service Management for the Tourism and Hospitality Industry</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>THM 5315 Strategic Tourism and Hospitality Marketing</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>THM 5601 Service Industry Analytics</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Concentration Introductory Course</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>THM 5331 Hospitality Operations Management (or) THM 5334 The Business of Event Management (or) THM 5605 Entrepreneurial Thinking for Hospitality and Event Industries</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fox School of Business and Management Elective</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Term Credit Hours</td>
<td>12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>THM 5313 Financial Mgt Tour/Hosp</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>THM 5602 Service Experience Design</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Two THM Concentration Electives</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Fox School of Business and Management Elective</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Term Credit Hours</td>
<td>12</td>
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<table>
<thead>
<tr>
<th>Summer</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>THM 5485 or STHM 9995 Graduate Internship (or Master's Project)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Term Credit Hours</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year 2</th>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>THM 5316 Strategic Management in the Tourism and Hospitality Industry</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>THM 5317 Tourism and Hospitality Management Consulting Project</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Two THM Concentration Electives</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Term Credit Hours</td>
<td>9</td>
</tr>
</tbody>
</table>

Total Credit Hours: 36

As shown in the plan of study above, each of the three concentrations requires the completion of four electives in addition to an introductory course. Approved electives are identified for each concentration in the following course grids:

### Event Management Concentration

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>THM 5312</td>
<td>Legal Issues for Hospitality and Event Enterprises</td>
<td>1.5</td>
</tr>
<tr>
<td>THM 5334</td>
<td>The Business of Event Management</td>
<td>1.5</td>
</tr>
<tr>
<td>THM 5335</td>
<td>Effective Sales Management</td>
<td>1.5</td>
</tr>
<tr>
<td>THM 5603</td>
<td>Food and Beverage Management</td>
<td>1.5</td>
</tr>
<tr>
<td>THM 5604</td>
<td>Event Logistics and Risk Management</td>
<td>1.5</td>
</tr>
<tr>
<td>THM 5605</td>
<td>Entrepreneurial Thinking for Hospitality and Event Industries</td>
<td>1.5</td>
</tr>
<tr>
<td>THM 5606</td>
<td>Hospitality Cost Control</td>
<td>1.5</td>
</tr>
</tbody>
</table>

### Hospitality Operations Management Concentration

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>THM 5312</td>
<td>Legal Issues for Hospitality and Event Enterprises</td>
<td>1.5</td>
</tr>
<tr>
<td>THM 5315</td>
<td>Strategic Tourism and Hospitality Marketing</td>
<td>1.5</td>
</tr>
<tr>
<td>THM 5322</td>
<td>Strategic Brand Management</td>
<td>1.5</td>
</tr>
<tr>
<td>THM 5329</td>
<td>New Media and Distribution</td>
<td>1.5</td>
</tr>
<tr>
<td>THM 5335</td>
<td>Effective Sales Management</td>
<td>1.5</td>
</tr>
<tr>
<td>THM 5336</td>
<td>Revenue Management and Hotel Analytics</td>
<td>1.5</td>
</tr>
<tr>
<td>THM 5603</td>
<td>Food and Beverage Management</td>
<td>1.5</td>
</tr>
<tr>
<td>THM 5605</td>
<td>Entrepreneurial Thinking for Hospitality and Event Industries</td>
<td>1.5</td>
</tr>
<tr>
<td>THM 5606</td>
<td>Hospitality Cost Control</td>
<td>1.5</td>
</tr>
</tbody>
</table>

### Tourism and Hospitality Marketing Concentration

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>THM 5322</td>
<td>Strategic Brand Management</td>
<td>1.5</td>
</tr>
<tr>
<td>THM 5327</td>
<td>Customer Relationship Management in Tourism and Hospitality</td>
<td>1.5</td>
</tr>
<tr>
<td>THM 5329</td>
<td>New Media and Distribution</td>
<td>1.5</td>
</tr>
<tr>
<td>THM 5336</td>
<td>Revenue Management and Hotel Analytics</td>
<td>1.5</td>
</tr>
<tr>
<td>THM 5605</td>
<td>Entrepreneurial Thinking for Hospitality and Event Industries</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Culminating Event: Successful completion of coursework earns the student the M.S. degree in Hospitality Management. Key to completion of the degree is the student's experience undertaking THM 5485 Graduate Internship (3 s.h.) or STHM 9995 Master's Project (3 s.h.).

Contacts

Program Web Address:
http://sthm.temple.edu/graduate-programs/masters-degree-programs/master-science-hospitality-management/

Department Information:
School of Sport, Tourism and Hospitality Management
Submission Address for Application Materials:
http://fox.force.com/sthmlogin

Department Contacts:
Senior Associate Director of Graduate Enrollment:
Michael J. Usino, M.L.A.
musino@temple.edu
215-204-3103

Manager of Graduate Student Services:
James Alton, M.S.Ed.
james.alton@temple.edu
215-204-7140

Academic Director:
Ben Altschuler, Ph.D.
benjamin.altschuler@temple.edu
215-204-8924

Chairperson:
Ceridwyn King, Ph.D.
Department of Tourism and Hospitality Management
ceridwyn.king@temple.edu
215-204-8730

Sport Business, M.S.

SCHOOL OF SPORT, TOURISM AND HOSPITALITY MANAGEMENT
(http://sthm.temple.edu)

About the Program

The goal of the Master of Science in Sport Business program is to prepare future leaders in the areas of policymaking, management, supervision, education, and research. The program provides for the analysis of current trends, problems, and policies that affect sport and leisure services. Designed to provide a multifaceted approach to the study of sport business, the program is structured to prepare students for a wide range of career opportunities in athletic administration, marketing and promotions, recreation and event management, and sport analytics.

Students interested in studying at the doctoral level should refer to the Ph.D. program in Business Administration with a concentration in Tourism/Sport (http://bulletin.temple.edu/graduate/scd/fox/business-admin-tourism-sport-phd) offered by Fox School of Business and Management.

Time Limit for Degree Completion: 4 years

Campus Location: Main, with business electives offered at the Center City campus or online

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Study Abroad: Students who wish to do their internships abroad work closely with the Center for Student Professional Development, which assists with the necessary contacts and supervision.

Areas of Specialization: Four areas of concentration are offered:

- Athletics Administration
- Recreation and Event Management
- Sport Analytics
- Sport Marketing and Promotions

Job Prospects: Students typically find placements in college athletics, campus recreation, professional sports, sport governing bodies, youth sport, stadium and arena management, and parks and recreation.

Financing Opportunities: Teaching and Research Assistantships and Graduate Externships within the School of Sport, Tourism and Hospitality Management are reserved for students who are capable of teaching undergraduate classes in specialized academic areas or assisting in faculty research. Teaching Assistants (TAs), Research Assistants (RAs), and Graduate Externs (GEs) are expected to provide between 5 and 20 hours per week of service throughout the academic year. A 9-month stipend is offered along with full (9 credits) tuition remission for the Fall and Spring terms for TAs and RAs. GEs receive a stipend only. Applications for assistantships and externships are not evaluated until a Graduate School application and all appropriate materials have been received. Assistantships and externships are available only to admitted students. The evaluation of applicants for Teaching and Research Assistantships and Graduate Externships begins by March and continues until all positions have been filled.

Admission Requirements and Deadlines

Application Deadline:

Fall:

- October 1 – Early Action Deadline
- March 1 – Priority Scholarship Deadline
- May 15 – Final Scholarship Deadline
- June 30 – Final Application Deadline

Spring:

- October 1 – Priority Scholarship Deadline
- November 1 – Final Application Deadline

Applications are processed as they arrive through the deadline.

APPLY ONLINE (http://fox.force.com/sthmlogin) to this STHM graduate program at http://fox.force.com/sthmlogin.

Letters of Reference:

Number of Letters Required: 2

From Whom: Letters of recommendation should be obtained from college/university faculty members familiar with academic competence and/or an immediate work supervisor.

Bachelor’s Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.
Statement of Goals: In 500 words, explain your academic/professional goals, personal strengths that will contribute to success in the graduate program, and personal weaknesses that may inhibit your success.

Standardized Test Scores:
GRE or GMAT: Required. Individuals may qualify for a GRE/GMAT waiver based on academic or professional history.
TOEFL: 100 iBT or 600 PBT minimum
IELTS Academic: 6.5 minimum

Resume: Current resume required.

Transfer Credit: Graduate credits from an accredited institution may be transferred into the program. The credits must be equivalent to coursework offered in the Master of Science in Sport Business and cannot have been used to complete another degree either at Temple University or another institution. The grade must be a “B” or better in order to transfer. The maximum number of credits a student may transfer is 6.

Program Requirements
General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 36

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRM 5211</td>
<td>Sport Finance and Economics</td>
<td>3</td>
</tr>
<tr>
<td>SRM 5212</td>
<td>Legal Issues in Sport and Recreation</td>
<td>3</td>
</tr>
<tr>
<td>SRM 5215</td>
<td>Sport Marketing</td>
<td>3</td>
</tr>
<tr>
<td>SRM 5216</td>
<td>Strategic Management in Sport and Recreation</td>
<td>3</td>
</tr>
<tr>
<td>SRM 5217</td>
<td>Sport Facility Management</td>
<td>3</td>
</tr>
<tr>
<td>SRM 5285</td>
<td>Graduate Internship in Sport and Recreation</td>
<td>3</td>
</tr>
</tbody>
</table>

Fox School of Business and Management Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT 5001</td>
<td>Quantitative Methods for Business</td>
<td>3</td>
</tr>
<tr>
<td>One elective course from the Fox School of Business and Management</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Sport Business Electives
Select 12 credits of the following:

- **Athletics Administration Concentration**
  - SRM 5225: Sport Sponsorship and Sales
  - SRM 5231: Compliance and Student-Athlete Affairs
  - SRM 5233: Governance and Policy in Intercollegiate Athletics
- **Recruitment and Event Management Concentration**
  - SRM 5232: Fundraising and Development
  - SRM 5241: Evaluation of Programs and Events
  - SRM 5242: Business of Non-Profit Organizations
  - SRM 5243: Event Management
- **Sport Analytics Concentration**
  - MIS 5001: Information Technology Management
  - MIS 5101: Business Intelligence
- **Sport Marketing and Promotions Concentration**
  - SRM 5225: Sport Sponsorship and Sales
  - SRM 5226: Consumer Behavior in Sport and Recreation
  - SRM 5227: Sport Media and Communication

Miscellaneous Electives
Free electives include any course listed in the above concentrations (SRM 5221 through SRM 5251) or any of the miscellaneous courses listed below:

- SRM 5220: Special Topics in Sport and Recreation
- STHM 9995: Master’s Project
- STHM 9996: Master’s Thesis

Total Credit Hours 36

1. The specific Fox School of Business and Management elective course will be chosen by the student in cooperation with her/his advisor and will be relevant to the student’s declared concentration.
2. Students may take 12 credits from the STHM elective courses listed above (in addition to the Fox School of Business and Management requirements, if necessary). If students wish to have a concentration designation on their transcripts, they must take each course designated under one concentration listed below and “declare” the concentration.
3. MIS 5001 Information Technology Management or MIS 5101 Business Intelligence satisfies the requirement for this concentration and for the second Fox School of Business and Management requirement listed above.

Culminating Event: SRM 5285 Graduate Internship in Sport and Recreation represents the culminating experience for all M.S. students during their term of graduation. A minimum of 3 credits is required for all students, regardless of concentration. The graduate internship utilizes a field placement with emphasis on acquisition and application of practical skills. A total of 180 contact hours are completed in cooperation between the student and an agency, under supervision of both the University internship coordinator and the agency-designated supervisor.

Contacts

Program Web Address:

Department Information:
School of Sport, Tourism and Hospitality Management
111 Speakman Hall
1810 N. 13th Street
Philadelphia, PA 19122-6083
sthm@temple.edu
215-204-8701

Submission Address for Application Materials:
http://fox.force.com/sthmlogin
Schools, Colleges, and Divisions

Department Contacts:
Assistant Director of Graduate Enrollment:
Michelle Rosar
michelle.rosar@temple.edu
215-204-3103

Manager of Graduate Student Services:
James Alton, M.S.Ed.
james.alton@temple.edu
215-204-7140

Academic Director:
Amy Giddings, Ph.D.
giddings@temple.edu
215-204-4398

Chairperson:
Joseph E. Mahan III, Ph.D.
Department of Sport and Recreation Management
jmahan@temple.edu
215-204-3017

Sport Business Executive Program, M.S.

SCHOOL OF SPORT, TOURISM AND HOSPITALITY MANAGEMENT
(http://sthm.temple.edu)

About the Program

The goal of the Executive Master of Science in Sport Business program is to provide experienced business professionals both inside and outside of the sport industry with the quantitative literacy, strategic decision making, and effective business communication skills they need to become senior and c-suite executives within the vast sport industry. In partnership with the Fox School of Business and Management’s online MBA program, the Executive Master of Science in Sport Business program leverages cutting-edge management coursework with focused sport-specific courses to help students lead and succeed in this competitive industry. Graduates of the Executive Master of Science in Sport Business program gain the following:

- in-depth knowledge of the size, scope, functioning, and issues facing the global sport industry;
- the ability to understand, assess, and respond to challenges that are presented to the sustainability of the global sport industry;
- enhanced analytical and critical thinking skills; and
- preparedness for career advancement within the global sport industry.

Students interested in studying at the doctoral level should refer to the Ph.D. program in Business Administration with a concentration in Tourism/Sport (http://bulletin.temple.edu/graduate/scd/fox/business-admin-tourism-sport-phd) offered by Fox School of Business and Management.

Time Limit for Degree Completion: 4 years, but the program is designed to be completed over 13 months.

Campus Location: Online, with a mix of sessions with the instructor, smaller team sessions, and independent work by students.

Admission Requirements and Deadlines

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Affiliations: Coursework from the Fox School of Business and Management is required for the Executive Master of Science in Sport Business program. The School of Sport, Tourism and Hospitality Management (STHM) is affiliated with the Fox School.

Job Prospects: Students who are not already working in the industry typically find placements with professional sport organizations, collegiate and high school athletics offices, community-based sport organizations, sport marketing agencies, and sport facilities.

Financing Opportunities: Students are automatically considered for merit-scholarships from STHM’s graduate programs at the time of admission. Scholarships are awarded on the basis on a student’s academic history and professional experience.

Application Deadline:

Fall:
- October 1 – Early Action Deadline
- March 1 – Priority Scholarship Deadline
- May 15 – Final Scholarship Deadline
- June 30 – Final Application Deadline

Applications are processed as they arrive through the deadline.

APPLY ONLINE (http://fox.force.com/sthmlogin) to this STHM graduate program at http://fox.force.com/sthmlogin.

Letters of Reference:
Number of Letters Required: 2

From Whom: Letters of recommendation should be obtained from college/university faculty members familiar with academic competence and/or an immediate work supervisor.

Bachelor’s Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Statement of Goals: In 500 words, explain your academic/professional goals, personal strengths that will contribute to success in the graduate program, and personal weaknesses that may inhibit your success.

Standardized Test Scores:
GRE or GMAT: Required. Individuals may qualify for a GRE/GMAT waiver based on academic or professional history.

TOEFL: 100 iBT or 600 PBT minimum
IELTS Academic: 6.5 minimum

Resume: Current resume required.

Transfer Credit: Graduate credits from an accredited institution may be transferred into the program. The credits must be equivalent to coursework offered in the Executive Master of Science in Sport Business and cannot have been used to complete another degree either at Temple University or another institution. The grade must be a “B” or better in
order to transfer. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Business Core Courses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select four of the following:</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>FIN 5001 Financial Analysis and Strategy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HRM 5051 Human Resources Management Strategies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MKTG 5001 Marketing Management/Strategy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SGM 5051 Business Strategy in a Global Environment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>STAT 5001 Quantitative Methods for Business</td>
<td></td>
</tr>
</tbody>
</table>

|        | Sport Industry Courses                     | 18           |
|        | Select six of the following:               |              |
|        | SRM 5211 Sport Finance and Economics       |              |
|        | SRM 5212 Legal Issues in Sport and Recreation |          |
|        | SRM 5226 Consumer Behavior in Sport and Recreation |    |
|        | SRM 5227 Sport Media and Communication     |              |
|        | SRM 5251 Sport Analytics                   |              |
|        | SRM 5252 Sport for Development             |              |
|        | SRM 5255 The Sport Workplace               |              |

Total Credit Hours: 30

1 STAT 5001 is required of all students enrolled in the MSSBEP program.

Culminating Event: Satisfactory completion of coursework is required to earn the Executive Master of Science in Sport Business degree.

Contacts

Program Web Address:

Department Information:
School of Sport, Tourism and Hospitality Management
111 Speakman Hall
1810 N. 13th Street
Philadelphia, PA 19122-6083
sthm@temple.edu
215-204-8701

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james.alton@temple.edu
215-204-7140

Academic Director:
John Allgood, M.S.
john.allgood@temple.edu
215-204-4398

Chairperson:
Joseph E. Mahan III, Ph.D.
Department of Sport and Recreation Management
jmahan@temple.edu
215-204-3017

Tourism and Hospitality Management Executive Program, M.T.H.M.

SCHOOL OF SPORT, TOURISM AND HOSPITALITY MANAGEMENT
(http://sthm.temple.edu)

About the Program

This program is not accepting applications for the 2018-2019 academic year.

Travel and Tourism, M.S.

SCHOOL OF SPORT, TOURISM AND HOSPITALITY MANAGEMENT
(http://sthm.temple.edu)

About the Program

The goal of the Master of Science in Travel and Tourism program is to provide a focused tourism curriculum for those wishing to pursue a career in a tourism organization or employees currently working in one seeking career advancement. Graduates of the program gain the following:

- in-depth knowledge of the size, scope, functioning, and issues facing the global tourism industry;
- the ability to understand, assess, and respond to challenges that are presented to the sustainability of the global tourism industry;
- enhanced analytical and critical thinking skills; and
- preparedness for career advancement within the global tourism industry.

Time Limit for Degree Completion: 4 years, but the program is designed to be completed over 13 months.

Campus Location: Online, with a mix of sessions with the instructor, smaller team sessions, and independent work by students.

Full-Time/Part-Time Status: The degree program can be completed on a full- or part-time basis.

Affiliations: Coursework from the Fox School of Business and Management is required for the Travel and Tourism M.S. program.
The School of Sport, Tourism and Hospitality Management (STHM) is affiliated with the Fox School.

**Job Prospects:** Students who are not already working in the industry typically find placements in convention and visitors bureaus; convention centers; destination marketing organizations (DMOs); tour operations; tourism attractions; local, state, and national tourism bureaus; and chambers of commerce.

**Financing Opportunities:** Students are automatically considered for merit scholarships from STHM's graduate programs at the time of admission. Scholarships are awarded on the basis of a student's academic history and professional experience.

**Admission Requirements and Deadlines**

**Application Deadline:**

**Fall:**
- October 1 – Early Action Deadline
- March 1 – Priority Scholarship Deadline
- May 15 – Final Scholarship Deadline
- June 30 – Final Application Deadline

**Spring:**
- October 1 – Priority Scholarship Deadline
- November 1 – Final Application Deadline

Applications are processed as they arrive through the deadline.

APPLY ONLINE (http://fox.force.com/sthmlogin) to this STHM graduate program at http://fox.force.com/sthmlogin.

**Letters of Reference:**

*Number of Letters Required:* 2

*From Whom:* Letters of recommendation should be obtained from college/university faculty members familiar with academic competence and/or an immediate work supervisor.

**Bachelor’s Degree in Discipline/Related Discipline:** All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

**Statement of Goals:** In 500 words, explain your academic/professional goals, personal strengths that will contribute to success in the graduate program, and personal weaknesses that may inhibit your success.

**Standardized Test Scores:**
GRE or GMAT: Required. Individuals may qualify for a GRE/GMAT waiver based on academic or professional history.

TOEFL: 100 iBT or 600 PBT minimum

IELTS Academic: 6.5 minimum

**Resume:** Current resume required.

**Transfer Credit:** Graduate credits from an accredited institution may be transferred into the program. The credits must be equivalent to coursework offered in the Master of Science in Travel and Tourism and cannot have been used to complete another degree either at Temple University or another institution. The grade must be a “B” or better in order to transfer. The maximum number of credits a student may transfer is 6.

**Program Requirements**

**General Program Requirements:**

*Number of Credits Required Beyond the Baccalaureate:* 30

**Required Courses:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>THM 5321</td>
<td>Tourism Analytics</td>
<td>3</td>
</tr>
<tr>
<td>THM 5323</td>
<td>Sustainable Tourism Development</td>
<td>3</td>
</tr>
<tr>
<td>THM 5328</td>
<td>Tourism Economics and Policy</td>
<td>3</td>
</tr>
<tr>
<td>THM 5341</td>
<td>Destination Events - A Global Perspective</td>
<td>3</td>
</tr>
<tr>
<td>THM 5342</td>
<td>Destination Management and Marketing</td>
<td>3</td>
</tr>
<tr>
<td>THM 5343</td>
<td>Cultural Intelligence</td>
<td>3</td>
</tr>
<tr>
<td>THM 5344</td>
<td>Crisis, Risk and Disaster Management</td>
<td>3</td>
</tr>
<tr>
<td>THM 5345</td>
<td>Understanding Tourism in the 21st Century</td>
<td>3</td>
</tr>
<tr>
<td>STAT 5001</td>
<td>Quantitative Methods for Business</td>
<td>3</td>
</tr>
<tr>
<td>THM 5485</td>
<td>Graduate Internship</td>
<td>3</td>
</tr>
<tr>
<td>or STHM 9995</td>
<td>Master's Project</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credit Hours:** 30

**Culminating Event:** Completion of a graduate internship (THM 5485) or master's project (STHM 9995) constitutes the culminating event.

**Graduate Internship:**
The graduate internship utilizes a field placement with emphasis on acquisition and application of practical skills. A total of 180 contact hours are completed in an agency, under the supervision of both the University internship coordinator and the agency-designated supervisor. A reflection report and completion of applied weekly activities are required.

**Master's Project:**
Students who have industry experience relevant to their program are able to complete an applied project instead of a graduate internship. The project topic is agreed to by the academic advisor and the student. If a research-based project is to be undertaken, students are strongly encouraged to take STAT 5001 Quantitative Methods for Business from the Fox School of Business and Management.

**Contacts**

**Program Web Address:**
http://sthm.temple.edu/graduate-programs/masters-degree-programs/ms-travel-and-tourism/

**Department Information:**

School of Sport, Tourism and Hospitality Management

111 Speakman Hall
1810 N. 13th Street
Philadelphia, PA 19122-6083
sthm@temple.edu
215-204-8701
Submission Address for Application Materials:
http://fox.force.com/sthmlogin

Department Contacts:
Senior Associate Director of Graduate Enrollment:
Michael J. Usino, M.L.A.
musino@temple.edu
215-204-3103

Manager of Graduate Student Services:
James Alton, M.S.Ed.
james.alton@temple.edu
215-204-7140

Academic Director:
Ben Altschuler, Ph.D.
benjamin.altschuler@temple.edu
215-204-8924

Chairperson:
Ceridwyn King, Ph.D.
Department of Tourism and Hospitality Management
ceridwyn.king@temple.edu
215-204-8730

Graduate Certificate: Destination Management

SCHOOL OF SPORT, TOURISM AND HOSPITALITY MANAGEMENT (http://sthm.temple.edu)

About the Certificate
The graduate certificate in Destination Management is designed for those who are looking to coordinate the powerful experiences afforded by a destination that individuals cannot get anywhere else.

Campus Location: Online

Full-Time/Part-Time Status: The graduate certificate can be completed on a part-time basis.

Admission Requirements and Deadlines
Bachelor’s Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Apply for this certificate program at http://sthm.temple.edu/graduate-programs/course-sequence-and-plans/master-of-science-in-travel-and-tourism-100-online/ms-stt-graduate-certificates/.

Certificate Requirements
Number of Credits Required to Complete the Certificate: 9

Required Courses:
<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>THM 5323</td>
<td>Sustainable Tourism Development</td>
<td>9</td>
</tr>
</tbody>
</table>

Contacts
Certificate Program Address:

Department Information:
School of Sport, Tourism and Hospitality Management
111 Speakman Hall
1810 N. 13th Street
Philadelphia, PA 19122-6083
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215-204-8701

Submission Address for Application Materials:
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215-204-8730

Graduate Certificate: Global Tourism

SCHOOL OF SPORT, TOURISM AND HOSPITALITY MANAGEMENT (http://sthm.temple.edu)

About the Certificate
The graduate certificate in Global Tourism is designed for those who want to turn a passion for travel into business or career opportunities by learning more about the ever-growing and diversified tourism industry.

Campus Location: Online
Full-Time/Part-Time Status: The graduate certificate can be completed on a part-time basis.

Admission Requirements and Deadlines
Bachelor's Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Apply for this certificate program at http://sthm.temple.edu/graduate-programs/course-sequence-and-plans/master-of-science-in-travel-and-tourism-100-online/mstt-graduate-certificates/.

Certificate Requirements
Number of Credits Required to Complete the Certificate: 9

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>THM 5328</td>
<td>Tourism Economics and Policy</td>
<td>3</td>
</tr>
<tr>
<td>THM 5343</td>
<td>Cultural Intelligence</td>
<td>3</td>
</tr>
<tr>
<td>THM 5345</td>
<td>Understanding Tourism in the 21st Century</td>
<td>3</td>
</tr>
<tr>
<td>Total Credit Hours</td>
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<td>9</td>
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</tbody>
</table>

Contacts
Certificate Program Address:
http://sthm.temple.edu/graduate-programs/masters-degree-programs/ms-travel-and-tourism/graduate-certificates/global-tourism-graduate-certificate/

Department Information:
School of Sport, Tourism and Hospitality Management
111 Speakman Hall
1810 N. 13th Street
Philadelphia, PA 19122-6083
sthm@temple.edu
215-204-8701

Submission Address for Application Materials:
http://fox.force.com/sthmiLogin

Department Contacts:
Senior Associate Director of Graduate Enrollment:
Michael J. Usino, M.L.A.
musino@temple.edu
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Chairperson:

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Department of Tourism and Hospitality Management
ceridwyn.king@temple.edu
215-204-8730

Graduate Certificate: Tourism Analytics

SCHOOL OF SPORT, TOURISM AND HOSPITALITY MANAGEMENT (http://sthm.temple.edu)

About the Certificate
The graduate certificate in Tourism Analytics is designed for those who enjoy looking at the details and are driven by a desire to extrapolate the value of the tourism industry.

Campus Location: Online
Full-Time/Part-Time Status: The graduate certificate can be completed on a part-time basis.

Admission Requirements and Deadlines
Bachelor’s Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Apply for this certificate program at http://sthm.temple.edu/graduate-programs/course-sequence-and-plans/master-of-science-in-travel-and-tourism-100-online/mstt-graduate-certificates/.

Certificate Requirements
Number of Credits Required to Complete the Certificate: 9

Required Courses:

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<thead>
<tr>
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<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>STAT 5001</td>
<td>Quantitative Methods for Business</td>
<td>3</td>
</tr>
<tr>
<td>THM 5321</td>
<td>Tourism Analytics</td>
<td>3</td>
</tr>
<tr>
<td>THM 5328</td>
<td>Tourism Economics and Policy</td>
<td>3</td>
</tr>
<tr>
<td>Total Credit Hours</td>
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<td>9</td>
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</tbody>
</table>

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Certificate Program Address:
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Department Information:
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Submission Address for Application Materials:
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215-204-8730
The Academic Programs Chart lists Temple University’s degrees, majors, minors and certificates alphabetically, along with the school or college that grants each degree, major, minor and certificate.

Students should be aware that, while all programs cannot be completed on all campuses, courses in many programs are offered on multiple campuses. To learn what specific courses are offered on which campuses in a given semester, refer to the Class Schedule.

**Major**
A cohesive combination of courses including introductory, intermediate, and advanced coursework that designates a student’s primary area of undergraduate study. Majors can be established or restructured to include required or optional tracks/concentrations. A major is typically 36-76 credit hours. Majors are designated on University transcripts at the time the degree is awarded.

**Minor**
A designated sequence of courses in a discipline or area of undergraduate study. Like the major, it is expected to have coherence and increasing sophistication. A minor is typically 18-24 credit hours (or approximately half of the major) and is independent of the student's major. Minors are designated on University transcripts when the degree is awarded.

**Track/Concentration**
A coordinated grouping of courses, typically one-third of a major, representing a sub-specialization or emphasis within a major field available for students majoring in that discipline. Track/Concentrations may be offered at the undergraduate, graduate, or professional level. Majors with track/concentration are designated on University transcripts when the degree is awarded.

**Certificate**
An academic program in which the student completes a prescribed course of study, typically 12 or more credit hours. This may be at the undergraduate, graduate or professional level. Certificates may be pursued independently of and without enrollment in any degree program.

### Academic Programs Chart: Degrees, Majors, Minors, Certificates

Asterisks (*) and carets (^) denote multiple option areas (emphasis/concentration) within a program.

<table>
<thead>
<tr>
<th>Degree Programs (emphasis)</th>
<th>Undergraduate</th>
<th>Graduate</th>
<th>Professional</th>
<th>School/College</th>
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<tbody>
<tr>
<td>Accomplished Teaching</td>
<td></td>
<td>M.S.Ed.  (p. 376)</td>
<td>ED</td>
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<tr>
<td>Accountancy</td>
<td></td>
<td>M.Acc.  (p. 307)</td>
<td>BU</td>
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<tr>
<td>Accounting*)</td>
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<tr>
<td>Accounting and Financial</td>
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<td>Post-M.B.A. Cert.</td>
<td>BU</td>
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<td>Management</td>
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<tr>
<td>Acting</td>
<td>Cert. (<a href="http://bulletin.temple.edu/undergraduate/theater-film-media-arts/theater/certificate-acting">http://bulletin.temple.edu/undergraduate/theater-film-media-arts/theater/certificate-acting</a>)</td>
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<td>Program</td>
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<td>Adult and Organizational Development</td>
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<td></td>
<td>M.Ed.</td>
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<tr>
<td>Advanced Education in General Dentistry</td>
<td>Cert.</td>
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<tr>
<td>Advanced Regulatory Affairs and Quality Assurance</td>
<td>Post-Master's Cert.</td>
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<td>Advertising (Account Management)</td>
<td>B.A.</td>
<td>CO</td>
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<tr>
<td>Advertising (Art Direction)</td>
<td>B.A.</td>
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<tr>
<td>Advertising (Brand Strategy and Research)</td>
<td>B.A.</td>
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<tr>
<td>Advertising (Copywriting)</td>
<td>B.A.</td>
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<td>Advertising (International Communication*)</td>
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<td>Advertising (Media Planning)</td>
<td>B.A.</td>
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<tr>
<td>Africology and African American Studies</td>
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<td>American Sign Language</td>
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<td>Applied Behavior Analysis</td>
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<td>Applied Sociology</td>
<td>P.S.M. (p. 543)</td>
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<td>Arabic</td>
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<td>Architecture</td>
<td>B.S.Arch. (<a href="http://bulletin.temple.edu/undergraduate/tyler-art-div/architecture-bs-architecture">http://bulletin.temple.edu/undergraduate/tyler-art-div/architecture-bs-architecture</a>)</td>
<td>M.Arch. (p. 52)</td>
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<td>Asian American Studies</td>
<td>Minor (<a href="http://bulletin.temple.edu/undergraduate/liberal-arts/american-studies/asian-american-studies-minor">http://bulletin.temple.edu/undergraduate/liberal-arts/american-studies/asian-american-studies-minor</a>)</td>
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<td>Academic Programs</td>
<td>LL.M.</td>
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<td>Asian Law</td>
<td></td>
<td>LA</td>
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</tr>
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<td>Autism Endorsement</td>
<td>Cert. (p. 471)</td>
<td>ED</td>
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<td>Basic Pharmaceutical Development</td>
<td>Cert.</td>
<td>PH</td>
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<td>Biochemistry</td>
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<td>ST</td>
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<td>Bioengineering</td>
<td>B.S.Bioe. (<a href="http://bulletin.temple.edu/undergraduate/engineering/bioengineering">http://bulletin.temple.edu/undergraduate/engineering/bioengineering</a>) M.S.Bioe. (p. 490), Ph.D. (p. 493)</td>
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<td>Bioinformatics</td>
<td>P.S.M. (p. 743), Ph.D. (p. 746), Cert. (p. 789)</td>
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<td>Bioinnovation</td>
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<td>Biology with Teaching</td>
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<tr>
<td>Biology/Neuroscience</td>
<td>Ph.D.</td>
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<td>Biomedical Sciences (Cancer Biology and Genetics*, General Biomedical Sciences*, Infectious Disease and Immunity*, Molecular and Cellular Biosciences*, Neuroscience*, Organ Systems and Translational Medicine*)</td>
<td>M.S. (thesis)* (p. 628), M.S. (non-thesis)^ (p. 628), Ph.D.* (p. 630)</td>
<td>ME</td>
<td></td>
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<td>Biopharmaceutical Manufacturing and Regulatory Affairs</td>
<td>Cert. (p. 655), Post-Master's Cert. (p. 655)</td>
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<td>Corporate Compliance and Ethics (Financial Services Industry, Healthcare)</td>
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<td>(<a href="#">p. 386</a>), Ph.D. (not currently accepting applications) (<a href="#">p. 388</a>)</td>
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<td>(p. 475)</td>
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<td>(p. 344)</td>
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<td>Diversity and Inclusion Cert. (<a href="http://bulletin.temple.edu/undergraduate/education/minors-certificates/certificate-diversity-inclusion">http://bulletin.temple.edu/undergraduate/education/minors-certificates/certificate-diversity-inclusion</a>)</td>
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<td>Early Childhood Education and Special Education M.Ed. (p. 389)</td>
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<td>Early Childhood-Elementary Ed (PreK-4) (Special Education) B.S.Ed. (<a href="http://bulletin.temple.edu/undergraduate/education/early-childhood-education-prek4/bs-early-childhood-education-prek4-concentration-special-education">http://bulletin.temple.edu/undergraduate/education/early-childhood-education-prek4/bs-early-childhood-education-prek4-concentration-special-education</a>),</td>
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<td>M.Ed.* (open only to students in Jamaica in collaboration with Church Teachers' College) (p. 401), Ed.D. (p. 401)</td>
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<td>Film and Media Arts (Cinematography)</td>
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<td>Film and Media Arts (Screen Studies)</td>
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<td>Financial Analysis</td>
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* Indicate programs with a concentration option.
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*Note: Courses and programs may be subject to change. Please consult the official Temple University Graduate Bulletin for the most current information.
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<td>Periodontics</td>
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<td>Pharmaceutical Sciences/ Medicinal Chemistry</td>
<td>M.S. (p. 640), Ph.D. (p. 646)</td>
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<td>Pharmaceutical Sciences/ Pharmacetics</td>
<td>M.S. (p. 642), Ph.D. (p. 648)</td>
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<td>M.S. (p. 644), Ph.D. (p. 650)</td>
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<td>Physical Therapy</td>
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<td>Physics</td>
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<td>Physics with Teaching</td>
<td>B.S. (<a href="http://bulletin.temple.edu/undergraduate/science-technology/tu-teach-programs/tu-teach-physics-bs">http://bulletin.temple.edu/undergraduate/science-technology/tu-teach-programs/tu-teach-physics-bs</a>)</td>
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<td>BC</td>
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<tr>
<td>Play Therapy</td>
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<tr>
<td>Podiatric Medicine</td>
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<td>Podiatric Medicine and Surgery, Fellowship in</td>
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<td>Police Leadership</td>
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<td>Policy and Organizational Studies, Ph.D.</td>
<td>Ph.D. (p. 436)</td>
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<tr>
<td>Political Economy</td>
<td>Cert. (<a href="http://bulletin.temple.edu/undergraduate/liberal-arts/certificate-programs/certificate-political-economy">http://bulletin.temple.edu/undergraduate/liberal-arts/certificate-programs/certificate-political-economy</a>)</td>
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<td>Political Science</td>
<td>B.A. (<a href="http://bulletin.temple.edu/undergraduate/liberal-arts/political-science/ba-political-science">link</a>), Minor (<a href="http://bulletin.temple.edu/undergraduate/liberal-arts/political-science/minor-political-science">link</a>)</td>
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<td>Portuguese</td>
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<td>Printmaking (Art Education*)</td>
<td>B.F.A. (<a href="http://bulletin.temple.edu/undergraduate/tyler-art/graphic-arts-design/bfa-printmaking">link</a>), Conc.*</td>
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<tr>
<td>Printmaking with Entrepreneurial Studies</td>
<td>B.F.A. (<a href="http://bulletin.temple.edu/undergraduate/tyler-art/graphic-arts-design/bfa-printmaking">link</a>)</td>
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<tr>
<td>Psychological Research</td>
<td>B.A. (<a href="http://bulletin.temple.edu/undergraduate/japan-campus/psychological-studies-ba">link</a>), Minor</td>
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<td>Psychological Studies (active in Japan)</td>
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<td>Psychology</td>
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<td>Public Health Law Research</td>
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<td>Public Policy</td>
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<td><strong>Quantitative Finance and Risk Management</strong></td>
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<td>BU</td>
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<td><strong>Regulatory Affairs and Quality Assurance</strong></td>
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<td>Post-M.B.A. Cert.</td>
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<td><strong>School Leadership/ Curriculum Supervision</strong></td>
<td>M.Ed. (p. 438)</td>
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<td><strong>School Leadership/Principal Leadership</strong></td>
<td>M.Ed. (p. 439)</td>
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<tr>
<td><strong>School Leadership/Reform and Change Leadership</strong></td>
<td>M.Ed. (p. 441)</td>
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<td><strong>School Nurse</strong></td>
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<td><strong>School Psychology</strong></td>
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<td><strong>Science Education/7-12</strong></td>
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<td>P.S.M. (p. 787), Cert. (p. 794)</td>
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<td><strong>Secondary Education and Special Education/English Education</strong></td>
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<td><strong>Secondary Education and Special Education/Mathematics Education</strong></td>
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<td><strong>Secondary Education and Special Education/Social Studies Education</strong></td>
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<td><strong>Secondary Education and Special Education/World/Foreign Languages Education</strong></td>
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<td><strong>Secondary Education/English Education</strong></td>
<td>B.S.Ed. (<a href="http://bulletin.temple.edu/undergraduate/education/secondary-education/english-education">http://bulletin.temple.edu/undergraduate/education/secondary-education/english-education</a>)</td>
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<td>Spanish and Latin American Studies for Business</td>
<td>Cert. (<a href="http://bulletin.temple.edu/undergraduate/liberal-arts/certificate-programs/certificate-spanish-latin-american-studies-business">http://bulletin.temple.edu/undergraduate/liberal-arts/certificate-programs/certificate-spanish-latin-american-studies-business</a>)</td>
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<td>Spanish and Latino Studies for Health and Human Services Professions</td>
<td>Cert. (<a href="http://bulletin.temple.edu/undergraduate/liberal-arts/certificate-programs/certificate-spanish-latino-studies-health-human-services-professions">http://bulletin.temple.edu/undergraduate/liberal-arts/certificate-programs/certificate-spanish-latino-studies-health-human-services-professions</a>)</td>
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<td>Special Education (Autism Spectrum Disorders, Mild Disabilities, Severe Disabilities)</td>
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<td>Sport Business (Athletics Administration, Recreation and Event Management, Sport Analytics, Sport Marketing and Promotions)</td>
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<td>Sport Business Executive Program</td>
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<td>Sport Marketing</td>
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<td>Sport and Recreation Management (Event Leadership, Governance and Policy, Sport and Recreation Promotion)</td>
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<td>Strategic Communication and Cross-Cultural Leadership</td>
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<td>String Pedagogy</td>
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<td>Sustainable Community Planning</td>
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<td>Taxation</td>
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<td>LL.M.</td>
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<td>Teacher Leadership</td>
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<td>Teaching English to Speakers of Other Languages</td>
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<td>Teaching in Higher Education</td>
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<td>M.F.A. (applications accepted every 3 years with next admission for Fall 2021) (p. 295)</td>
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<td>Theater/Design</td>
<td>M.F.A. (p. 297)</td>
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<tr>
<td>Theater/Directing</td>
<td>M.F.A. (applications accepted every 3 years with next admission for Fall 2021) (p. 298)</td>
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<td>Theater/Playwriting</td>
<td>M.F.A. (p. 301)</td>
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<td>Tourism Analytics</td>
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<td>Tourism and Hospitality Management (2+2 program, active in Japan)</td>
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<td>Tourism and Hospitality Management Executive Program</td>
<td>M.T.H.M. (not currently accepting applications) (p. 802)</td>
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<td>Training and Organizational Development</td>
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<td>Urban School Leadership</td>
<td>M.Ed. (p. 469)</td>
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### Visual Anthropology

**Minor** ([http://bulletin.temple.edu/undergraduate/liberal-arts/anthropology/visual-anthropology-minor](http://bulletin.temple.edu/undergraduate/liberal-arts/anthropology/visual-anthropology-minor))

### Visual Studies

**B.A.** ([http://bulletin.temple.edu/undergraduate/tyler-art/ba-visual-studies](http://bulletin.temple.edu/undergraduate/tyler-art/ba-visual-studies))

### Vocal Arts

**M.M.** (p. 278)

### Voice and Speech for the Actor


### World/Foreign Languages Education/K-12

**Cert.** (not currently open for enrollment)

### Writing

**Cert.** ([http://bulletin.temple.edu/undergraduate/liberal-arts/certificate-programs/certificate-writing](http://bulletin.temple.edu/undergraduate/liberal-arts/certificate-programs/certificate-writing))

### Key for Schools and Colleges

- **BC**: Esther Boyer College of Music & Dance in the Center for the Performing & Cinematic Arts
- **BU**: Fox School of Business & Management
- **CA**: School of Theater, Film & Media Arts in the Center for the Performing & Cinematic Arts
- **CO**: Lew Klein College of Media & Communication
- **DN**: Maurice H. Kornberg School of Dentistry
- **ED**: College of Education
- **EN**: College of Engineering
- **HP**: College of Public Health
- **LA**: College of Liberal Arts
- **LW**: Beasley School of Law
- **ME**: Lewis Katz School of Medicine
- **PH**: School of Pharmacy
- **PM**: School of Podiatric Medicine
- **ST**: College of Science & Technology
- **SW**: School of Social Work
- **TA**: Tyler School of Art
- **TH**: School of Sport, Tourism & Hospitality Management
- **UC**: University College
- **US**: University Studies

### Degree Symbols and Classifications

- **A.A.**: Associate in Arts
- **A.S.**: Associate in Science
- **B.A.**: Bachelor of Arts
- **B.A./M.A.**: Five-year Bachelor's and Master's Program
- **B.A./M.S.**: Five-year Bachelor's and Master's Program
- **B.B.A.**: Bachelor of Business Administration
- **B.F.A.**: Bachelor of Fine Arts
- **B.F.A. w/TC**: Bachelor of Fine Arts with Teaching Certification
- **B.M.**: Bachelor of Music
- **B.S.**: Bachelor of Science
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**Accounting (ACCT)**
Courses

ACCT 5001. Accounting for Managerial and Investment Analysis and Planning. 3 Credit Hours.
This course presents the concepts of financial and managerial accounting with a “user” (investor or manager) orientation. The course has three parts. The first part provides the accounting cycle and the reporting process, with an emphasis on the valuation bases and structure of the financial statements. The second part focuses on the interpretation and analyses of the financial statements, including analyses of cash flows and cross-sectional and time-series trends in financial ratios. The role of managerial accounting choices in determining the nature of financial reporting and quality of earnings is also examined. The third part examines the role of accounting information for managerial planning and control. Costing for inventory and pricing, cost-volume-profit analyses, and budgeting issues are covered.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ACCT 5003. Financial Accounting. 3 Credit Hours.
This is an introductory course, and there is no expectation that students should possess prior accounting knowledge. The course will introduce you to the fundamental concepts of financial accounting. Financial accounting information is produced, in accordance with generally accepted accounting principles (GAAP), to report the operations of an entity to external users, for example, suppliers, customers, and investors. We will focus on the accounting cycle, the structure of the financial statements, and profitability analysis. In addition, we will discuss recent changes in the reporting environment and contemporary reporting issues.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ACCT 5004. Managerial Decision Making Using Accounting Information. 1 to 3 Credit Hour.
You will learn how to do the following: measure and evaluate performance so as to design incentive mechanisms; estimate the profitability of your branches, products, and customers; make capital investment decisions; design budgets and identify what went wrong or right; and synthesize business strategy with accounting information systems. The focus is on understanding how to use accounting data, rather than how to generate it.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ACCT 5003|Minimum Grade of B-|May not be taken concurrently.

ACCT 5101. Financial Accounting Theory. 3 to 4 Credit Hours.
This course provides intensive study of financial accounting theory and generally accepted accounting principles. Areas emphasized are income measurement, valuation of tangible and intangible assets, and accounting for liabilities and shareholders’ equity. Proper financial statement presentation and disclosure are covered in detail. This course is also designed to reinforce fundamental concepts in recording business transactions and representing them in financial reports for external constituents and internal managers. It also includes an understanding of financial ratios and other tools to analyze financial statements.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ACCT 5004|Minimum Grade of B-|May not be taken concurrently
OR ACCT 5402|Minimum Grade of B-|May not be taken concurrently
OR ACCT 5302|Minimum Grade of B-|May not be taken concurrently.

ACCT 5102. Advanced Financial Accounting. 3 Credit Hours.
This course continues the study of financial accounting begun in Acct 5101. Topics include: income tax allocation, pensions, leases, statement of changes in financial position, inflation accounting, foreign currency translation. Approximately one-half of course devoted to business combinations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ACCT 5004|Minimum Grade of B-|May not be taken concurrently
OR ACCT 5402|Minimum Grade of B-|May not be taken concurrently
OR ACCT 5302|Minimum Grade of B-|May not be taken concurrently.
ACCT 5107. Accounting for Third Party Reimbursements. 3 Credit Hours.
Concepts and structure of third-party payment environments are examined for their implications on healthcare institutions. Cost finding and analysis techniques for management application are emphasized. Relationships between rate setting and payment are also studied.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ACCT 5004|Minimum Grade of B-|May not be taken concurrently
OR ACCT 5402|Minimum Grade of B-|May not be taken concurrently
OR ACCT 5302|Minimum Grade of B-|May not be taken concurrently)
AND (HCM 5101|Minimum Grade of B-|May not be taken concurrently)

ACCT 5108. Acct in an ERP Environment. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ACCT 5111. Concepts and Analysis of Financial Statements. 3 Credit Hours.
Analysis of business enterprise through financial statements, concepts, and analysis of related data. Emphasis on the user's point of view. Structured to maximize student's ability to use and analyze financial statements.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ACCT 5004|Minimum Grade of B-|May not be taken concurrently
OR ACCT 5402|Minimum Grade of B-|May not be taken concurrently
OR ACCT 5302|Minimum Grade of B-|May not be taken concurrently.

ACCT 5112. Federal Taxation. 2 to 3 Credit Hours.
This course provides an introduction to the concepts and logic underlying federal income tax law. Emphasis is on the determination of income and allowable deductions for business entities (corporations, partnerships, sole proprietorships) and individuals. The course introduces tax planning concepts and includes the study of how taxation impacts business and personal decision making. The course also integrates some financial accounting and finance theory with federal tax law.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ACCT 5004|Minimum Grade of B-|May not be taken concurrently
OR ACCT 5402|Minimum Grade of B-|May not be taken concurrently
OR ACCT 5302|Minimum Grade of B-|May not be taken concurrently.

ACCT 5121. Managerial Cost Accounting. 3 Credit Hours.
Students who have taken cost accounting at the undergraduate level should not enroll in this course. This course provides intensive study of the accounting information needs of internal management. Both cost accumulation and cost control are examined.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ACCT 5004|Minimum Grade of B-|May not be taken concurrently
OR ACCT 5402|Minimum Grade of B-|May not be taken concurrently
OR ACCT 5302|Minimum Grade of B-|May not be taken concurrently.
ACCT 5123. Auditing Theory and Practice. 3 Credit Hours.
In this course, students study professional auditing standards and ethics, internal control, gathering and documentation of audit evidence, a detailed analysis of auditing procedures applied to major balance sheet and income statement accounts, and the preparation of the auditor's report. Statistical sampling and EDP concepts as they relate to auditing.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ACCT 5101|Minimum Grade of B-|May not be taken concurrently.

ACCT 5125. Accounting Information Systems for Management. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ACCT 5004|Minimum Grade of B-|May not be taken concurrently OR ACCT 5402|Minimum Grade of B-|May not be taken concurrently OR ACCT 5302|Minimum Grade of B-|May not be taken concurrently.

ACCT 5126. Strat Use Equity Comp. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

In this course students will develop an understanding of international accounting and International Financial Reporting Standards (IFRS). Students will describe and apply accounting and reporting for significant differences between U.S. GAAP and IFRS. The course will enhance and apply critical thinking skills to key IFRS reporting standards as compared to U.S. GAAP.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ACCT 5170. Special Topics. 1 to 6 Credit Hour.
Special topics courses are developed to cover emerging issues or specialized content and they do not repeat material presented by regular semester courses.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
ACCT 5004|Minimum Grade of B-|May not be taken concurrently OR ACCT 5402|Minimum Grade of B-|May not be taken concurrently OR ACCT 5302|Minimum Grade of B-|May not be taken concurrently.

ACCT 5180. Special Topics. 1 to 6 Credit Hour.
Special topics courses are developed to cover emerging issues or specialized content and they do not repeat material presented by regular semester courses.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
ACCT 5004|Minimum Grade of B-|May not be taken concurrently OR ACCT 5402|Minimum Grade of B-|May not be taken concurrently OR ACCT 5302|Minimum Grade of B-|May not be taken concurrently.
ACCT 5182. Independent Study. 1 to 6 Credit Hour.
Study in particular aspects of accounting under the direct supervision of a graduate faculty member. No more than six semester hours of independent study may be counted toward degree requirements.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
ACCT 5004|Minimum Grade of B-|May not be taken concurrently
OR ACCT 5402|Minimum Grade of B-|May not be taken concurrently
OR ACCT 5302|Minimum Grade of B-|May not be taken concurrently.

ACCT 5190. Special Topics - Accounting. 1 to 6 Credit Hour.
Special topics courses are developed to cover emerging issues or specialized content and they do not repeat material presented by regular semester courses.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
ACCT 5004|Minimum Grade of B-|May not be taken concurrently
OR ACCT 5402|Minimum Grade of B-|May not be taken concurrently
OR ACCT 5302|Minimum Grade of B-|May not be taken concurrently.

ACCT 5201. Advanced Studies in Financial Reporting. 3 Credit Hours.
This course covers generally accepted accounting principles for business enterprises and governmental and nonprofit organizations. It will cover the concepts and standards for financial statements. Pedagogy will include extensive use of accounting case studies. Typical items to be discussed will include recognition, measurement, valuation, and presentation of various elements in financial statements in conformity with GAAP.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ACCT 5202. Enterprise Systems and Internal Controls. 3 Credit Hours.
This course provides an understanding of the principal characteristics and functions of accounting information systems and an appreciation of the controls that should be in place for the major areas of business activity. Ethical issues, the impact of the Sarbanes-Oxley Act, and the necessary controls of databases are examined in detail. ERP, electronic business issues, and systems design considerations - particularly accounting and web site security and the impact of outsourcing - are covered toward the end of the course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ACCT 5203. Professional Skills Development. 1 to 4 Credit Hour.
This course is designed to impart important communication and professional skills. Students will focus on personal development of specific abilities that are instrumental for effective communication in professional positions. Students will focus on the development of specific skills, such as communication (written and oral), team building, and leadership, technology and Excel proficiency.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ACCT 5204. Advanced Auditing and Assurance Services. 3 Credit Hours.
This course is designed to prepare students to successfully plan and perform various attestation services. This course will cover the generally accepted auditing standards and procedures, forensic accounting and fraud and include contemporary issues in auditing. Pedagogy will include extensive use of case studies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
ACCT 5205. Advanced Federal Taxation. 3 Credit Hours.
This course focuses on advanced topics in the income taxation of corporations and flow-through business entities (partnerships, subchapter S corporations, limited partnerships, etc.) including formation, allocations, distributions, redemptions, reorganizations and terminations. Additional advanced topics covered include: the personal holding company tax, issues related to brother-sister corporations, penalties for improper accumulation of surplus and consolidated tax returns. The course will develop skills in identifying and researching issues in taxation.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

ACCT 5206. Law Ethics & Regulations. 3 Credit Hours.
This course provides an introduction to the legal and regulatory framework in which businesses and individuals operate. The course covers the basics of business law (agency, contracts, debtors, creditors, etc.) and the general business environment (business structures, management rights and responsibilities, the requirements of the Sarbanes-Oxley Act, etc.).

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

ACCT 5207. Concepts and Analysis of Financial Statements. 3 Credit Hours.
This course focuses on how users of financial statements incorporate accounting data into their financial evaluation. The course will use ratios and other tools to measure profitability and risk. The course will also examine techniques for forecasting future earnings performance as inputs in models of equity valuation. Students will analyze a major US corporation in parallel with class material and will achieve an awareness of current financial reporting issues.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

ACCT 5208. Strategic Technology and Performance Management. 3 Credit Hours.
This course provides an overview of the key concepts necessary to understand the role of information technology in business, the impact of economy-wide changes on financial performance, the analysis and implementation of competitive strategy, and systems to control and enhance performance.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

ACCT 5282. Independent Study. 1 to 3 Credit Hour.
Study in particular aspects of accounting under the direct supervision of a graduate faculty member. No more than six semester hours of independent study may be counted toward degree requirements

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

Pre-requisites:
ACCT 5004|Minimum Grade of B-|May not be taken concurrently
OR ACCT 5402|Minimum Grade of B-|May not be taken concurrently
OR ACCT 5302|Minimum Grade of B-|May not be taken concurrently.

ACCT 5287. Colloquium on Current Issues in Accounting Practice. 1 to 3 Credit Hour.
Students attend and participate in forums, seminars and conferences on current issues in accounting practice. Professionals from public accounting and industry will speak on topics of current interest in accounting, auditing and income taxes. The Colloquia will be spread throughout the three semesters of the MAcc program.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.
ACCT 5301. Analyzing the Financial Health of the Business. 1.5 Credit Hour.
This course prepares students to interpret and analyze a firm’s financial statements effectively. Students will understand how to evaluate a company’s financial performance and that of its peers, how to estimate the risk of a company from its accounting numbers, and how to estimate the quality of earnings for a firm. Exercises include live examples as well as cases.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Co-requisites: FIN 5301.

Repeatability: This course may not be repeated for additional credits.

ACCT 5302. Accounting Information for Business Decisions. 1.5 Credit Hour.
In this course you will acquire skills in the following areas as you build your financial acuity competency and apply accounting information to managerial decisions: product and service costing, budgeting and variance analysis, capital budgeting, performance measurement, differential analysis and ethical decision making. The focus is on understanding how to use accounting data, rather than how to generate it.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Co-requisites: FIN 5302.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ACCT 5301|Minimum Grade of B-|May not be taken concurrently)
OR ACCT 5401|Minimum Grade of B-|May not be taken concurrently)
AND (FIN 5301|Minimum Grade of B-|May be taken concurrently)
OR FIN 5401|Minimum Grade of B-|May not be taken concurrently)

ACCT 5401. Analyzing the Financial Health of the Business. 1.5 Credit Hour.
This course prepares students to interpret and analyze a firm’s financial statements effectively. Students will understand how to evaluate a company’s financial performance and that of its peers, how to estimate the risk of a company from its accounting numbers, and how to estimate the quality of earnings for a firm. Exercises include live examples as well as cases.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

ACCT 5402. Accounting Information for Business Decisions. 1.5 Credit Hour.
In this course you will acquire skills in the following areas as you build your financial acuity competency and apply accounting information to managerial decisions: product and service costing, budgeting and variance analysis, capital budgeting, performance measurement, differential analysis and ethical decision making. The focus is on understanding how to use accounting data, rather than how to generate it.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ACCT 5401|Minimum Grade of B-|May be taken concurrently
OR ACCT 5301|Minimum Grade of B-|May be taken concurrently.

ACCT 5801. Fin Info Reporting & Analysis. 3 Credit Hours.
This course helps you solidify your knowledge of accounting systems and financial information reporting procedures. You'll increase your comprehension of financial reports and of the practical applications of accounting theories and concepts through in-depth discussion of real-world situations, involving revenue recognition, inventory valuation, intangible assets and reporting for leases.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
ACCT 5802. Strategic Cost Analysis for Enterprise Management. 2 to 3 Credit Hours.
You will advance your ability to use accounting principles and concepts to make better day-to-day business decisions as you examine cost behavior, variable margin, cost-volume-profit relationships, budgeting, break-even and incremental analysis. You'll also learn to use capital budgeting and discounted cash flows to determine the acceptability of investment alternatives from a cost/resource perspective. Your research projects and out-of-class assignment incorporate spreadsheet analyses and Internet resources.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ACCT 5801|Minimum Grade of B-|May not be taken concurrently.

ACCT 5882. Independent Study. 1 to 6 Credit Hour.
Study in particular aspects of accounting under the direct supervision of a graduate faculty member. No more than six semester hours of independent study may be counted toward degree requirements

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
ACCT 5801|Minimum Grade of B-|May not be taken concurrently.

ACCT 5890. Special Topics. 1 to 6 Credit Hour.
Special topics courses are developed to cover emerging issues or specialized content and they do not repeat material presented by regular semester courses.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ACCT 9001. Interdisciplinary Accounting Research. 3 Credit Hours.
The seminar adopts a broad approach to research methods and is not limited to hypothesis testing and statistical analysis. Examines a general structure for methodology, which includes: problem finding as well as problem solving; generating theory as well as testing theory; different research strategies: opinion, empirical, archival and analytic research; criteria for selecting and evaluating research methods.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ACCT 9002. Seminar in Financial Accounting Theory. 3 Credit Hours.
The seminar focuses on current methodological issues in financial accounting research. In-depth analysis of empirical tests of financial accounting theories. Implications for future research are emphasized.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ACCT 9003. Seminar in Research Methods - Accounting. 3 Credit Hours.
The seminar focuses on research methods in areas such as Auditing, Managerial Accounting, or Taxation, and may also include behavioral studies in these areas.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
ACCT 9011. Proseminar in Accounting. 1 to 3 Credit Hour.
This course is designed to investigate a variety of research methods in accounting. Students become familiar with critically reading and analyzing research methodologies used in different papers presented at the department workshops. Through this process, students learn to use what they had learned in previous course(s) and critically read and evaluate empirical research papers in theoretical and empirical areas.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Business Administration.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School, Sport Tourism Hospitality Mgt.

Repeatability: This course may be repeated for additional credit.

ACCT 9090. Seminar - Special Topics in Accounting. 1 to 6 Credit Hour.
This course is designed to investigate a variety of research methods in accounting. Students become familiar with critically reading and analyzing research methodologies used in different papers presented at the department workshops. Through this process, students learn to use what they had learned in previous course(s) and critically read and evaluate empirical research papers in theoretical and empirical areas.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ACCT 9183. Directed Study in Accounting. 1 to 6 Credit Hour.
Supervised individual reading and research projects. Often associated with a seminar in which papers on a variety of topics are presented.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Actuarial Science (AS)

Courses

AS 5101. Theory of Interest. 3 Credit Hours.
In this course, simple, compound and effective interest functions are analyzed and used in the calculation of present value and future values of various investments. Annuities, loan amortization and bonds are discussed and techniques for computing their values at various dates are explored.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AS 5102. Actuarial Modeling I. 3 Credit Hours.
This course introduces the discrete and continuous random variables measuring the future lifetime of a person. Among the topics covered are calculation of the mean, variance and probability functions for these random variables, introduction of a present value random variable measuring the present value of a life insurance and annuity benefit, calculation of premiums for life insurance and annuities using interest rates and calculation of reserves for insurance companies, examining future liabilities and inflow.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
AS 5101|Minimum Grade of B-|May be taken concurrently.

AS 5103. Actuarial Modeling II. 3 Credit Hours.
This course introduces multiple life functions that require the use of joint probability functions and the calculation of marginal probability distributions. Additional topics include the calculation of mean and variance for these joint random variables and multiple decrement theory. Various topics from Loss Models are also discussed including computation of mixed distributions through compounding of frequency distributions with severity distributions and the calculation of premiums for insurance policies with deductibles, limits and coinsurance.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
AS 5102|Minimum Grade of B-|May not be taken concurrently.
AS 5104. Actuarial Modeling III. 3 Credit Hours.
Estimation and fitting of survival, frequency and severity, and compound distribution loss models; credibility methods.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AS 5105. Actuarial Economics. 3 Credit Hours.
This course develops the conceptual framework of microeconomics and macroeconomics with some applications in actuarial science. It offers the VEE credit for Economics as required by the Society of Actuary. Topics in microeconomics include interaction between supply and demand, consumer behavior, production choices, different types of competition, factor markets, and market failure. Topics in macroeconomics include business cycles, inflation, unemployment, monetary and fiscal policy, balance of payments, international economics, and economic growth.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AS 5106. Actuarial Corporate Finance. 3 Credit Hours.
This course introduces students to the fundamental principles of accounting, corporate finance, and financial derivatives, from an actuarial perspective. It offers students VEE credit for accounting and finance, as required by the actuarial societies. It also covers the corporate finance material of actuarial Exam IFM. The course covers basic accounting principles and regulations, financial statements, investment decision making, the risk-return tradeoff, capital structure, long-term financing, investment risk, and an introduction to both financial and real options.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Co-requisites: AS 5101.

Repeatability: This course may not be repeated for additional credits.

AS 5107. Advanced Theory of Interest. 3 Credit Hours.
This course develops the theoretical basis of certain actuarial models and the application of those models to insurance and other financial risks. It prepares students for SOA Exam MFE or CAS Exam 3F. Topics covered in this course include Vasicek and Cox-Ingersoll-Ross bond price models, Black-Derman-Toy binomial model, Black-Scholes option-pricing model, exotic options, Itô’s lemma in the one-dimensional case. Simulation of lognormal stock prices and variance reduction techniques will be discussed and delta-hedging in risk management will be demonstrated.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
AS 5101|Minimum Grade of B-|May not be taken concurrently.

AS 5108. Actuarial Analytics. 3 Credit Hours.
The course introduces students to linear regression models and time series analysis, with a focus on applying these tools to actuarial business decisions in an insurance or consulting environment. Statistical analyses have quickly become part of the modern actuary’s day-to-day responsibilities as they help improve solutions to traditional actuarial problems such as estimating mortality, setting loss reserves, predicting policyholder behavior, and establishing classification ratemaking schemes. In addition, actuaries have started to use predictive modeling techniques to improve insurance operations and business processes that have traditionally relied largely on the managers’ judgement. The course aims to prepare students for and beyond the data analytics needs of entry level actuarial positions. Since programming skills are vital to conduct statistical analyses - and are thus highly valued by the insurance industry - they are also a focus of this course. In particular, students will learn two of the most common statistical languages used by actuaries: SAS and R. No prior knowledge of these languages is required. Students will be introduced to both languages and will apply them throughout the course to various real-world insurance and financial data sets. Furthermore, the course will feature hands-on guest lectures by alumni of the Temple actuarial science program who will present students with examples of their work with data analytics.

Department Restrictions: Must be enrolled in one of the following Departments: Business:Risk,Insur & HC Mgmt.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AS 5170. Special Topics. 3 Credit Hours.
Special Topics. Content varies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
AS 5180. Special Topics. 3 Credit Hours.
Special Topics. Content varies.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

AS 5182. Independent Study. 1 to 6 Credit Hour.
Special study in a particular aspect of actuarial science under faculty supervision. Maximum of six hours may be counted toward degree requirements.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

AS 5190. Special Topics in Actuarial Science. 3 Credit Hours.
Special Topics - Actuarial Science. Content varies.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

AS 5196. Casualty Contingencies. 3 Credit Hours.
This highly participative course is designed to broaden perspectives on the business environment in which actuaries work. In addition to analyzing the issues behind daily events, several continuing issues will be analyzed including insurance pricing cycles, regulatory developments, the role of the actuary as an educator, advisor, objective information source and problem solver insurance company financial rating and solvency issues, accounting fraud and questionable financial transactions, insurance and the financial markets managing insurance operations, professional ethics, and the impact of current developments in underwriting, and reinsurance on the actuarial function.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

AS 5282. Independent Study. 1 to 3 Credit Hour.
Independent Study. Focus to be determined by instructor and student.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**Adult and Organizational Development (AOD)**

**Courses**

AOD 5401. System Dynamics. 3 Credit Hours.
Frameworks for understanding dynamic social systems that form the bases for research, assessment, planning, intervention, and evaluation of social entities are explored. Linear and nonlinear theories are examined, especially as they may be applied to group and organizational training and development.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

AOD 5402. Communication and Conflict. 3 Credit Hours.
This course focuses on the role of communication in settings where there is an attempt to manage conflict among individuals or groups. Students study the major factors that influence conflict interaction and learn to apply conflict theories to interpersonal, group, and organizational settings.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

AOD 5403. Facilitating Adult Learning. 3 Credit Hours.
This course examines teaching and learning transactions in adult educational settings and the methods and techniques appropriate for facilitating adult learning.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.
AOD 5404. Organizational Communication. 3 Credit Hours.
Interpersonal and relational processes and transactions are critical to organizational functioning. This course explores major points of organizational communication and interaction (e.g., attraction, recruitment, selection, socialization, training, development, performance management, and career progression/promotion). Moderators of communication (e.g., diversity, culture, and climate) and effects on organizational outcomes (attraction, performance, commitment, retention) will be highlighted.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AOD 5515. Conflict Resolution in Education. 3 Credit Hours.
Educators need to know how to develop safe and constructive learning environments. Effective management of conflict in educational settings and the creation of conflict competence in students and staff are key. This course provides an overview of proven programs in conflict resolution education in K-12 contexts.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AOD 5516. Negotiation Processes. 3 Credit Hours.
Negotiation is a critical skill in any professional or personal context. This course teaches students to engage effectively in cooperative and competitive orientations as a means to negotiate dyadic and multiparty situations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AOD 5518. Third-Party Conflict Intervention. 3 Credit Hours.
This course examines the various ideologies and roles that third parties adopt as they intervene in conflict in interpersonal, group, organizational, or cross-cultural settings. Students learn the fundamentals of various third-party roles, including mediators, arbitrators, ombudspersons, and facilitators. Emphasis is placed on how conflict intereners' purpose drives their practice as they work toward transforming difficult conflicts.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AOD 5522. Interpersonal Skills Training. 3 Credit Hours.
This course examines training methods to develop interpersonal and team effectiveness in the workplace. Skills included are understanding others, clear communication, asserting needs, exchanging feedback, influencing, resolving conflict, collaborating, and shifting gears.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AOD 5524. Sociocultural Dynamics. 3 Credit Hours.
This course examines contending frameworks for understanding conditions and dynamics of sociocultural diversity and scenarios for preferred outcomes. Contemporary and evolving issues of human diversity in our global, local, and personal contexts are explored, especially as these relate to professional practice.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AOD 5527. Training Design and Delivery. 3 Credit Hours.
This course examines the design of training programs in public and private sector organizations. Students learn to design active, experientially based training programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
AOD 5532. Leadership and Management. 3 Credit Hours.
This course addresses the theoretical understandings that guide appropriate implementation of professional managerial and facilitative roles in adult and organizational development. Students gain increased clarity regarding contextually appropriate practice of both management and leadership.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AOD 5533. Team Development. 3 Credit Hours.
This course blends academic inquiry and experiential learning in exploring the nature and dimensions of teams. We focus on: Characteristics of teams; Processes of teamwork; Issues teams face; and Organizational context of teams.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AOD 5534. Group Facilitation and Consultation. 3 Credit Hours.
This course focuses on the skills needed to assist groups and teams in their decision-making processes. Students learn both voting and consensus processes and develop the skills needed to facilitate either approach to decision-making. The course also covers a range of specialized formats for assisting group decision-making such as brainstorming, nominal group technique, problem solving, incrementalism, and mixed scanning.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AOD 5535. Organizational Assessment, Design and Strategy. 3 Credit Hours.
This course explores applied research and evaluation in organizations. It highlights methods such as surveys, interviews, focus groups, administrative data analysts, and "tests" used for organizational purposes such as employee selection, performance appraisal and employee motivation/satisfaction. Students are expected to explore a relevant organizational research/assessment proposal.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AOD 5540. Current Topics in AOD. 1 to 3 Credit Hour.
The topics of this course vary. Its inclusion in the curriculum allows faculty and students to explore emerging issues in the field.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

AOD 8101. Training and Organizational Development: Theory and Research. 3 Credit Hours.
This course is a doctoral level graduate seminar that focuses on critical conceptual and empirical issues facing the field of training and development. The course is structured around major training themes such as training needs assessment, design, evaluation and transfer. The course is not specifically designed to "train" trainers but to give participants an appreciation for the critical research issues that must be addressed in the training literature. To appreciate these issues, participants will also be involved in projects designed to simulate the practical issues and constraints in designing a training program. Thus, the course is based on the principles of action learning and learner control of the learning process.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AOD 9187. Practicum in Adult and Organizational Development. 3 Credit Hours.
This course provides students with the opportunity to translate adult and organizational theory into practice by gaining experience working in contexts in which change and learning are being fostered. Students work under the auspices of the Training and Development Center and are placed in a variety of contexts. This course should be taken near the end of the student's program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
AOD 9231. Proseminar in AOD. 3 Credit Hours.
This capstone course provides students with the opportunity to design and complete a culminating project that applies the principles of AOD theory and practice.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Advanced Core Medical Science (ACMS)

Courses

ACMS 5003. Fundamentals of Biochemistry. 4 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ACMS 5004. Fundamentals of Physiology. 4 Credit Hours.
Fundamentals of Physiology addresses important topics including membranes and membrane transport, excitation and contraction of skeletal, smooth and cardiac muscle, the heart and blood flow, renal physiology and lung physiology. Important medically related examples will be discussed. Course syllabus will be provided by the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ACMS 5006. Microbiology and Immunology. 4 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ACMS 5007. Human Anatomy. 4 Credit Hours.
Human Anatomy provides instruction in gross anatomy for postbac students. Important medically related examples will be discussed. Course syllabus will be provided by the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ACMS 5008. Medical Pharmacology. 4 Credit Hours.
Medical Pharmacology provides instruction in pharmacology for postbac students. Important medically related examples will be discussed. Course syllabus will be provided by the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ACMS 5010. Special Topics in Medicine. 2 to 3 Credit Hours.
Special Topics in Medicine discusses important topics in medicine including translational research and evidence based medicine for postbac students. Course syllabus will be provided by the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
ACMS 5011. Case-based Clinical Problem Solving. 1 Credit Hour.
A crucial component in training pre-medical students to become effective physicians is developing interactive skills, specifically meaningful patient history taking. This course provides students at the Lewis Katz School of Medicine the opportunity to interact with and receive feedback from standardized patients. Furthermore, the encounter permits the design of learning experiences that integrate the students’ understanding of basic science principles with clinical reasoning. This course consists of two parts. The first part provides students with the basic tools for interviewing patients and taking their history. This is accomplished by use of self-study, lectures and one on one interaction with standardized patients. During the second part of the course, students working in teams on specially designed clinical cases reason through and present their diagnosis and reasoning to the class. Included in the clinical case is a session with the simulation mannequins who will be programmed with the appropriate disease characteristics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.

Advertising (ADV)

Courses

ADV 5501. Advertising Research and Strategy. 3 Credit Hours.
This course provides an overview of the process for developing and evaluating advertising strategy that is grounded in theoretical principles and supported by research. In particular, the course examines concepts and techniques that are useful for identifying consumer insights and social trends affecting communication strategy in the developmental phase and then measuring the effectiveness of those strategies in the evaluative stage. The course will review best practices in both qualitative and quantitative research techniques including attention to ethical considerations that are fundamental to consumer research. The aim of this course is to provide students with a better understanding of the role of theoretical principals and research in campaign development and evaluation while familiarizing students with the types and methods of research that are used in advertising practice.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ADV 5502. Media Planning and Analysis. 3 Credit Hours.
The focus of this course will be on the art and science of crafting a paid presence for large budget brands competing in today’s complex media environment. Students explore the conceptual foundations of media planning with an eye towards effectively engaging a target audience, which has more control over media consumption than any prior generation. Coursework will explore how shifts from mass media to personalized content affect the opportunity to place branded messages and how socially active audiences can magnify a message for better or worse through their own personal networks. In-class discussion will explore the future of paid media placement, audience tolerances for ad-supported content and the economic implications of a shift from ad-supported to “free” content.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ADV 5503. Persuasion and the Marketplace. 3 Credit Hours.
This course explores the strategic use of communication to facilitate change. Theoretical frameworks will be taught and their applications explored. Discussion topics include behavior and attitude change in the contexts of health, social, and consumer behaviors. We will focus on moral and ethical issues in the marketplace as they relate to the fundamentals of persuasion theories. Additional topics for in-class discussion will focus on the moral and legal implications of advertising language, disclosure and transparency in a socially connected world. By the end of the course students will propose a strategic plan that utilizes persuasive theory to change the health, social, or consumer behavior of a hard to reach audience.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ADV 5504. Visual Communication and Branding. 3 Credit Hours.
“Visual branding” isn’t just a buzz-phrase; it’s a crucial part of every company's marketing strategy. Brand identity fuels recognition, increases differentiation, and symbolizes core values. Identity expresses itself in visual systems that shape audience perception. The course will examine how the disciplined process of branding can build awareness and extend loyalty in an audience.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
ADV 5505. User Experience Design and Strategy. 3 Credit Hours.
User Experience Design and Strategy are practices that, when conducted empirically, will help ensure a successful digital experience. UX Design and Strategy seeks continuous customer feedback and validation that the brand or campaign is addressing customers’ needs. This course is a combination of contemporary methodologies culled from several disciplines including user research, product design, and business strategy. Topics will include: competitive analysis and identification of marketplace opportunities, value innovation, rapid prototyping, customer discovery, and designing for conversion using metrics. By the conclusion of the course, each student should be equipped with a strategic method to quickly and effectively launch a product or service online. This course introduces the latest techniques for conducting user research, creating personas, and refining and optimizing particular user experiences. Topics include conducting user research, developing user personas and scenarios, information architecture, system and user interface design, prototype creation, and usability testing and analysis. Students develop and present a single comprehensive project for their portfolio that includes usability research and a working prototype.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ADV 9082. Directed Projects. 1 to 8 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ADV 9083. Directed Readings. 1 to 4 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Africology and African American Studies (AAAS)

Courses

AAAS 5010. Special Topics in African Languages. 3 Credit Hours.
Languages vary by semester. Please consult with the instructor and/or check the course schedule for specific topic.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

AAAS 8001. Proseminar in Graduate Work in African American Studies. 3 Credit Hours.
An introduction to the intellectual and professional foundations of the field. It examines the historical origins of African American Studies in the United States and Africa, as well as the context of classic creative, analytical, and autobiographical works.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 8002. African Civilizations. 3 Credit Hours.
An intensive investigation into the origins of several major African civilizations. Civilizations and periods chosen may vary at the discretion of the instructor but will normally include the classic cultures of Nubia, Kemet, Axum, Songhay, Mali, Ghana, Monomotapa, Yoruba, and Asante.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 8003. Research Methods in African American Studies. 3 Credit Hours.
An introduction to the basic research methods used in African American Studies. It examines historical, anthropological, behavioral, and critical methods, as well as the methodological foundations of the Afrocentric method.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
AAAS 8004. Theories and Methods in African American Studies. 3 Credit Hours.
An intensive critique of African studies within the context of evolving theoretical and methodological issues. Topics include boundaries of particularism, frames of reference, etymology, historical cleavages, and the idea of the African voice. Students will write major research papers analyzing the various perspectives advanced by scholars within the field of African studies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 8005. African Literature. 3 Credit Hours.
Examines African literature from 4000 B.C. to the 20th century. Special attention will be paid to the early sacred works, and didactic oral traditions, poetry, drama, the advent and literary aesthetics of Western-writers.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 8006. African American Literature. 3 Credit Hours.
Deals with the social context of African American literary development from enslavement to the present. Students are introduced to the cultural patterns and historical experiences that produced the early autobiographies, narratives, poetry, and essays as well as the 20th century novels, plays, and poetry.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 8007. African Aesthetics. 3 Credit Hours.
Examines the interrelationship of the creative process with cultural and philosophical motifs in African history by studying mythology, the generative and productive force of the spoken word and the power and significance of a wide variety of aesthetic concepts.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 8008. Ethnographic Methods. 3 Credit Hours.
Examines the various classic and contemporary methods for collecting field data on African cultural and social behaviors. Emphasis on the use of audio and video data gathering methods, and participant observation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 8009. The Afrocentric Paradigm. 3 Credit Hours.
In this intensive critique of African studies we discover the processes by which those working in the discipline of Africology develop their arguments about and/or interpretations of the African world experience transnationally and trans-generationally. Although this course naturally emphasizes theories and methodologies in Africana Studies, our readings and discussions will move beyond the rote acquisition of a list of thinkers and their ideas. Since our main objective is to finish the course with a broader, deeper view of the discipline, our dialogue must intentionally sharpen our skills as critics, theoreticians and researchers, and give us the confidence to examine the agency of African people in any phenomena. Thus, students will explore the historical and intellectual roots of Afrocentricity, as well the main tenets of the most prominent paradigm in the discipline. It is expected, that by the end of the semester, students should be well versed in Afrocentric theories and be able to apply it to their own research interests.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 8415. Ancient Egyptian Language I. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 8416. Ancient Egyptian Language II. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
AAAS 8432. African-American Family. 3 Credit Hours.
Contemporary theories and research on the African American family. Includes assessment of family behavior, the role of children, sex roles, perceptual changes within the context of society, demographic factors, impact of unemployment and underemployment, and income distribution.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 8435. Ebonics: African American Language. 3 Credit Hours.
Examines variations of African American languages found throughout the Americas. Special attention to the Gullah prototype from South Carolina and Georgia. Presents the major theoretical arguments about the development of the languages.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 8441. African Philosophical Thought. 3 Credit Hours.
An analytical and historical overview of the ideas that have made the African culture, with particular emphasis on the resurrection idea, the concept of rule, harmony and balance, divination systems, dual-gender responsibility, and relationship between human beings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 8442. African Religions. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 8446. Cheikh Anta Diop. 3 Credit Hours.
A critical examination of the portions of Diop's corpus on the African origin of civilization with special inquiry into the nature of his evidences. Students will present papers analyzing Diop's Afrocentric perspective and his impact on African scholarship around the world.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 8449. Pan Africanism. 3 Credit Hours.
A survey of the major currents of Pan African Thought from the early Pan African Congresses to the events of the Sixth Pan African Congress of Dar Es Salaam. Opposing critiques will be presented and discussed, especially the Marxist critique of Pan Africanism.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 8455. Caribbean Culture and Politics. 3 Credit Hours.
An investigation of the roles of culture and politics in the development of the Caribbean basin. Particular emphasis will be placed on the ways that African cultural survivals, creolism, syncretism, and political struggle have acted to create the unique Caribbean outlook.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 8464. Literature of the Harlem Renaissance. 3 Credit Hours.
A study of the African-American realization of literary revivals between the two great 20th Century European wars. Special emphasis on Harlem as a venue and symbol of the emergence of modern African American literature.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 8465. Literature of the Black Power Revolution. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
AAAS 8468. Major African Writers. 3 Credit Hours.
Examines the 20th Century prose, fiction, and poetry, of major writers of the African world. Students analyze writers in accordance with the protocols of literary innovations, Afrocentric motifs, symbolic functionalism and political themes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 8521. Readings in African History. 3 Credit Hours.
Survey of the major developments in Africa through written and oral records with discrete emphasis on the analysis of perspectives both external and internal to Africa. Collected traditions, colonial and neocolonial scholarship, liberal and feminist writings, Marxist and neo-Marxist treatises as well as Africanist and afrocentrist literature will be examined.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 8542. Readings in African American Social Thought. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 8547. Readings in 1960's Protests. 3 Credit Hours.
Close reading of documentary evidences in African American political, historical, and social thought during the turbulent sixties. Students prepare papers from primary documents.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 8561. African American Theatre. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 8566. African American Music. 3 Credit Hours.
A survey of the rich musical tradition of African Americans from the emergence of the field hollers and work songs to contemporary music. Attention given to spirituals, jazz, blues and rock as major genres.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 9001. Seminar in African Aesthetics. 3 Credit Hours.
Examines the philosophical foundations of African aesthetics by concentrating on the cosmology, ritual religions, oral traditions, and proverbs of African people. Examines the question of what constitutes African standards of beauty, or art, or good, or culture.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 9002. Teaching African American Studies. 1 to 3 Credit Hour.
Required of all graduate teaching assistants prior to the assumption of teaching duties. Designed to teach communication and organizational skills. Supervision of teaching is required.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
AAAS 9614. African American Diaspora. 3 Credit Hours.
Using primary source material and with special attention to the United States, students will examine the African experience in the Americas from the 14th century to the present. Movements, periods, events and people that represent the major social, economic and political African American thought will be surveyed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 9615. Seminar in African American Psychology. 3 Credit Hours.
An examination of theory and research pertaining to African American psychology. A selected discussion of various theoretical perspectives on African American personality and socialization.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 9625. Nile Valley Civilization. 3 Credit Hours.
A critical examination of selected topics in the civilizations of Kemet, Nubia and Axum. Detailed analysis and discussion on the primacy of Kemet in African civilization.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 9641. Sem Life & Work Malcolm X. 3 Credit Hours.
Examines the life and work of Malcolm X from the standpoint of his impact on social, political, and economic movements in the United States. The moral force of Malcolm X as seen in the growth of various urban religious and spiritual groups will be assessed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 9642. Seminar in African American Social Philosophy. 3 Credit Hours.
An intensive seminar in the writings and activities of major social philosophers such as Edward Blyden, Ida B. Wells, Paul Cuffee, Martin Delany, David Walker, Malcolm X, Harold Cruse, and Angela Davis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 9643. Research and Writings of W.E.B. DuBois. 3 Credit Hours.
An intensive examination of selected topics in the autobiographical works of Du Bois, historical, sociological, and creative works.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 9645. Seminar in the African American Woman. 3 Credit Hours.
An exhaustive treatment of theories relating to the role of the African American woman. Topics will include gender bias within the African American community, feminism and the black woman, sexism, classism, and racism, and the future of the black woman in America.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 9662. Seminar in the African American Novel. 3 Credit Hours.
A seminar in the African American novel which may focus on one or several principal figures or examine a single theme during a particular historical period, i.e., the novel after 1945.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

AAAS 9761. Seminar in African American Studies: Social Behavior. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
AAAS 9982. Individual Research in African American Studies. 1 to 6 Credit Hour.
Individual Research In African American Studies while still in the coursework phase of the program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

AAAS 9993. Master’s Comprehensive Examination. 1 to 6 Credit Hour.
Preparation for master’s comprehensive exam.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

AAAS 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
Preliminary Exam Preparation. Following coursework completion, registration in AAS 9994 is required to prepare for Preliminary Exams.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

AAAS 9996. Master’s Thesis. 1 to 3 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

AAAS 9998. Pre-Dissertation Research. 1 to 6 Credit Hour.
Pre-Dissertation Research. After having passed the Preliminary exams, registration is appropriate for students working on the dissertation proposal.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

AAAS 9999. Dissertation Research. 1 to 6 Credit Hour.
This course is intended only for those students who have achieved Ph.D. Candidacy status. A minimum of 6 semester hours is required for graduation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.

Anthropology (ANTH)

Courses

ANTH 5006. Quantitative Analysis of Anthropological Data. 3 Credit Hours.
The primary goal of this course is to provide students with a solid grounding in basic statistical techniques/methods as applied to anthropological data. Such data is highly variable in form due, in part, to the diversity of research questions being asked and to the methods of collection. The ultimate goal of this course is to bring together various data sets and methods so that students might better assess the results/interpretations presented in the anthropological literature. New quantitative concepts will be presented each week along with examples/applications of the concepts and practice problems. The problems associated with the main course text will be solved using a hand calculator; more complex data sets and problems will require the use of computer statistical software [i.e., SPSS (available on all University machines)].

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
ANTH 5170. Methods in Archaeology. 3 Credit Hours.
Methods and procedures used in the practice of archaeology with topical foci varying by semester. Semester long topics include: cultural resource management; sediments, soils, and geomorphology in archaeology; pottery analysis; and lithic analysis. As an example, the lithic analysis focus provides hands-on experience in analyzing lithic assemblages through experimental replication of stone tools, experimental use of stone tools, microscopic analysis of experimental and archaeological specimens, and classification of lithic assemblages. The first half of the course consists of laboratory exercises in making, using, and analyzing stone tools and flaking debris. The second half of the course is devoted to the conducting of independent research projects by class members on some aspect of lithic analysis. Because topics change, 5170 may be taken more than once.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

ANTH 5171. Comparative Early Civilizations. 3 Credit Hours.
This comparative analysis of the rise of early civilizations uses archaeological and historical information to examine the development of ancient societies. It focuses on problems of the Neolithic revolution and the autochthonous transformation of kin-based communities into stratified societies and the subsequent formation and development of archaic states.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ANTH 5172. Seminar in Northeastern Prehistory. 3 Credit Hours.
The archaeology and prehistory of the native peoples of the Middle Atlantic Region are examined in detail, and in the broader context of cultural developments in the Northeast and Eastern Woodlands of the United States. Although the seminar employs cultural historical periods as a way to present information, cultural diversity across time and space are emphasized. Basic descriptive data dealing with prehistoric cultures are presented, as well as the variety of interpretations of native lifeways upon which they are based. Included in the course is information derived from cultural resource management studies, the results of which are infrequently published.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ANTH 5177. Approaches to Historic Sites in Archaeology. 3 Credit Hours.
Students examine the central questions, values, and goals of historical archaeology, gaining a working knowledge of its basic concepts and methods. A material culture approach is used as archaeological objects are presented in sites where they express a series of concepts related to our understanding of status, wealth, self identity, consumerism, and symbolism. A holistic framework is used to present material evidence together with documentary, oral, and other data. A variety of sites will be examined in order to introduce many important subfields of historical archaeology such as landscape archaeology, urban archaeology, industrial archaeology, and underwater archaeology. The course also will demonstrate how such evidence illuminates the modern world and its relevance to our own time and place.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ANTH 5180. Historic Sites in Archaeology. 3 Credit Hours.
A seminar on the archaeology of sites dating from the colonial period and later periods in American history. Topical focus varies; contact the instructor for details.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

ANTH 5189. Field Session in Archaeology. 6 Credit Hours.
Techniques and concepts of field archaeology, including survey and excavation. Students will be expected to spend the greatest part of the session in the field during the excavation of a prehistoric or historic occupation site. The location of field projects shifts from year to year. Previous locations have included coastal Maryland, the New Jersey Pine Barrens, the Middle and Upper Delaware Valley, and Valley Forge.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.
ANTH 5310. Theories and Methods in Cultural Anthropology. 3 Credit Hours.
This course examines anthropological approaches to visual and material consumption in social life. Through readings in both classic social theory and contemporary theory and ethnography, we will investigate how images and things acquire meaning, organize social life, and constitute identities through different consumptive processes. Questions to be addressed include: How do people create social identities, hierarchies, or senses of collective belonging through consumption practices? How do images and objects acquire value or significance in different consumption contexts - from gift exchange to internet surfing to shopping? What is the relationship between images, objects, money, and morality in different societies? How can we understand the commodity form ethnographically? What can consumption reveal about processes of state formation and globalization - from the creation of imagined communities to the creation of inequalities? What are the differences between the consumption of visual media versus material objects?

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ANTH 5322. Anthropology and Development. 3 Credit Hours.
Economic Anthropology is the study of how economic systems articulate with culture on a variety of scales. This class examines basic paradigms of study in economic anthropology, theories of money and value, and ethnographies of exchange. We will look at how the commodification, production and/or sale of goods in formal, informal and black markets affect people in very different ways. We think through the role of the state, of religion, power struggles and advertising in shaping these markets.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 5325. Culture, History, and Power. 3 Credit Hours.
This course examines how both western and non-western societies have defined the domain of "politics." While looking at a range of ethnographies on different forms of politics, we will also attempt to understand how anthropologists historically have studied politics, and how anthropological notions of politics have changed through time.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 5326. Problems in the Anthropological Study of Religion. 3 Credit Hours.
This course examines some of the major themes, methods, and intellectual traditions of the study of religion in anthropology. Considered as a comparative study of religious practice, this course seeks to understand thought and behavior in worship, iconography, pilgrimage, domestic and congregational performance, mythology and cosmology, trance, dance, sacrifice, ritual experience and other dimensions of religious life as well as the way that these facets of religious culture interrelate. The study of religion in a historically complex circumstance will provide the means to examine the processes of accommodation and tension that exist in a multi-religious environment.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 5328. Seminar in Social Organization. 3 Credit Hours.
This seminar focuses on anthropological analysis of social structures, including kinship, families and households, social networks, voluntary organizations, and bureaucracies

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 5332. Medical Anthropology. 3 Credit Hours.
Examines biocultural and sociocultural approaches to the understanding of multiplex human experiences of health, disease, and affliction. Introduction to the major theoretical schools and critical issues of contemporary medical anthropology. Explores six topical areas: biocultural perspectives on disease and health; ethnomedicine; medical pluralism; medicine and social control; international health development; and the relationships between culture/society and scientific biomedical representations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
ANTH 5335. Anthropology and Social Policy. 3 Credit Hours.
Examines "applied" domain and different ways of "using" anthropological knowledge, ranging from critiques of international and federal social policies as products of the state and private interests to participative anthropology that moves toward political action and empowerment, to working for the state and private corporate centers as a way to make a living. Evaluates the efficacy of different types of work for progressive social change and examines the possibilities of how to make our research matter more in relation to major public issues.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 5355. Anthropology of Sexuality and Gender. 3 Credit Hours.
Explores anthropological literature on gender as a means of exposing the hidden assumptions about power, language, and gender that inform anthropological theory. Theoretical critiques of this literature will be used to reassess anthropology and to generate a systematic approach to the study of gender. (Prior to fall 2015, the course title was Gender Theory.)

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 5358. Race and Class in North America. 3 Credit Hours.
American Culture: Conformity and Diversity. This course focuses on North American ethnographies and their role in the development of North Americanist anthropology. This includes examining dominant debates about the cultural and structural intersection of race, class, gender, and other axes of difference. Other topics include the global spread of North American power, expertise in science and technology, and cultural forms in the twentieth century.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 5366. Contemporary Perspectives in Urban Anthropology. 3 Credit Hours.
Examines the development of urban anthropology from the early debates of the 1970s to redefinitions in the 1980s. The emerging paradigm of intensive studies of local social processes within larger macrostructural contexts is the focus.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 5389. Fieldwork in Ethnography. 3 Credit Hours.
This class encourages students to explore the world around them from an ethnographer's perspective; that is, to observe, hear and listen to people and the settings around them with attention to history and the social, political, economic, and ideological structures that provide the context for actors' agency. We will conduct short fieldwork exercises, write fieldnotes and an analytic paper, and conduct an oral history interview. We will also consider what ethical issues fieldworkers encounter as they pursue their research, read classic and more recent examples of ethnographic writing, and engage in debate about different forms of anthropological methods and writing.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 5396. History of Anthropological Theory. 3 Credit Hours.
Clarifies various intellectual currents in contemporary anthropological thought as it has been shaped by Western society and the emergence of various intellectual tendencies. Surveys the antecedents of anthropology in the major intellectual currents of the early modern era and its crystallization during the Age of Revolution. Focuses in detail on what happened after the social sciences were professionalized in the late 19th century.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 5428. Theory and Methods in Culture and Communication. 3 Credit Hours.
This course explores the history and development of visual culture. Considered are: the history of perception and how mechanical and digital reproduction have had an impact on the sensuousness of the gaze-in-culture; how various intellectual movements in the 20th century effected visual reproduction. The course provides a solid historical foundation with which students can enhance their comprehension of contemporary visual culture.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
ANTH 5434. Anthropology in Feature Films. 3 Credit Hours.
Students will critically review a series of feature films that include topics, themes, and subject matter often treated within anthropology and related human sciences. It is clear that American feature films usually thought of as 'Hollywood films' can be very influential in establishing or reinforcing social and cultural stereotypes of 'states of knowledge' about peoples living in various parts of the world. Viewership of these materials, either as films shown in movie theaters or as their videotape counterparts seen on home television screens, certainly exceeds the size of audiences in introductory anthropology courses in the U.S. The potential for influence and false senses of familiarity is enormous.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 5438. Anthropology of Mass Media. 3 Credit Hours.
This course examines the relationships between various types of media (film, radio, television, Internet, newspaper, telephone, performance) and power relations, control, and cultural representation. We will look at reception studies, and social construction of "news watching," the construction of "others" and the maintenance of "otherness" in media, as well as the international politics of media messages and the power of media in influencing our opinions about the world.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 5439. Anthropology and Photography. 3 Credit Hours.
A critical examination of an anthropological approach to photography. Special attention will be given to a socio-cultural history of photography in the U.S. Examples from documentary, fine art, and commercial photographic genres will be shown, discussed, and compared to ethnographic studies. Field methods, models of analysis, and ethical issues will also be included. Required readings, active class participation. No exams. Students keep a journal and write several short essays. Note: Knowledge of camera technology and darkroom procedures is helpful but not required.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 5444. Anthropological Problems in Visual Production. 3 Credit Hours.
The introduction of visual recording techniques to a sample of problems in the anthropology of visual communication. Discussions will include ways anthropologists construct problems, develop observational strategies, select appropriate image-making technology, work in field conditions, among others. Strategies of representation connected to the integration of cultural and film theories will be explored in conjunction with a wide range of film examples. Students will be introduced to the department's production facilities and do short exercises in image making, viewing, and interpretation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 5458. Anthropology of Public Culture. 3 Credit Hours.
Explores museums, exhibitions, galleries, and festivals as a form of public culture. Activities include critical reading of relevant literature and an examination of films, CD-ROM's, Internet web sites as well as field trips to local institutions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 5501. Language, Power, and Agency. 3 Credit Hours.
This seminar examines the varied ways in which individuals and groups use language in constituting, maintaining, resisting, challenging, subverting, and transforming power relations. These issues are considered at multiple levels of analysis, from face-to-face interactions to performances to the production and circulation of media at national and global levels. A central goal is to develop critical perspectives on the place of language and communicative practice in contemporary social theory.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
ANTH 5504. Language as Social Action. 3 Credit Hours.
This seminar examines language use and other communicative practices as forms of action through which individuals and groups create, sustain, and transform their lifeworlds. Drawing largely on ethnographic materials, it considers a broad range of the semiotically, culturally, politically, ideologically, and discursively mediated activities that, taken together, constitute human sociality. The seminar emphasizes the collection, analysis, and presentation of original ethnographic data. Toward these ends, each seminar participant develops an independent research project involving participant observation and naturalistic audio-video recording of communicative practices (both verbal and non-verbal) in local settings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 5509. Language Socialization and Cultural Reproduction. 3 Credit Hours.
Language socialization research is concerned with the processes whereby children and other novices, through interactions with older or otherwise more experienced persons, acquire the knowledge, orientations, skills, and practices that enable them to function as (and crucially, to be regarded as) competent members of their communities. This seminar examines language socialization and cultural reproduction as both universal and culturally specific phenomena. Topics explored include theoretical and methodological approaches to socialization; cross-cultural variations in ways of teaching and learning; socialization of children and of other novices; the agency of learners; the socialization of identities, roles, and statuses; and socialization processes as a site of innovation and change. Using the resources of the Linguistic Anthropology Teaching Laboratory, seminar participants collect, analyze, and present ethnographic audio-video data from various local settings (schools, churches, community organizations, workplaces, etc.) in which socialization can be observed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 5510. Methods in Linguistic Anthropology. 3 Credit Hours.
Survey of methods and problems in linguistic anthropology.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ANTH 5770. Methods in Physical Anthropology. 3 Credit Hours.
Methodological training for graduate students in physical anthropology and the Biocultural adaptation program. Topics include population genetics and demography, osteology, energy flow models, and human physiology.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ANTH 5796. Biocultural Adaptation of Human Populations. 3 Credit Hours.
This course explores the manner in which the adaptation concept has been used in cultural and biological anthropology. Evaluations of optimization models, thermodynamic models, evolutionary stable strategy theory, cultural materialism and selection models are conducted in a seminar format. Discussions will focus on the extent to which the behavioral and biological characteristics of human populations can be explained in an "adaptive" context. Students will critique specific models and the way they have been applied to groups living in stressful environments.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 5797. Reproductive Biology of Human Populations. 3 Credit Hours.
A survey of physiological and biochemical variability in human populations examined as a function of environmental adaptation. Emphasis on the responses of different populations to discernible environmental stresses.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 5798. Seminar in Evolutionary Biology. 3 Credit Hours.
In-depth review of the synthetic theory of evolution, and special topics in evolutionary theory. Emphasis placed on the history of evolutionary thinking, the sources of variation in human populations, evolutionary processes, behavioral ecology, the levels of selection and problems in phylogenetic reconstruction. Anthropologically relevant models will be used throughout the course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
ANTH 8003. Approaches in Cultural Anthropology. 3 Credit Hours.
Examination of the major theoretical debates that have informed cultural anthropology by analyzing how these perspectives have shaped the development of the ethnographic form. Topics include: structural-functionalism, professional and symbolic approaches, political economy, gender theory and post-structuralism.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 8004. Approaches in Linguistic Anthropology. 3 Credit Hours.
Linguistic anthropology is concerned with the dynamic inter-relationships among language, culture, and society. This course provides an overview of theoretical and methodological approaches through which language can be studied in its social and cultural contexts as a means of communication as well as a medium of power, a means of production, and a commodity of value. Language is regarded as a cultural resource, and communicative practices are treated as forms of social action that vary significantly from one place and time to another. The role of language in sociocultural processes of reproduction and change are examined, revealing that communicative practices and their social organization are not just reflections of pre-existing social structures and cultural patterns, but are in fact constitutive of society and culture.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 8005. Approaches in Physical Anthropology. 3 Credit Hours.
Survey of theories and methodologies used in physical anthropology. Development of physical anthropological theory and practice, genetics, hominid evolution, human population variation, primate history and ethnology, ecology, demography, and physiological anthropology.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 8006. Approaches in Archaeology. 3 Credit Hours.
Examines the methods and theories used in archaeological research and provides an overview of human history that has been revealed by archaeological research. Topics covered include the historical development of archaeology, the nature of archaeological evidence, measuring and organizing time, analyzing spatial relationships, interpreting material culture, explanations in archaeology, hunter-gatherers in prehistory, agricultural origins, origins of complex societies, historical archaeology, and current trends in archaeology.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 8011. Teaching of Anthropology. 3 Credit Hours.
This course is a workshop on issues in the teaching of anthropology in general and, more specifically, on the teaching of introductory courses in Temple's Department of Anthropology. Weekly meetings will cover general pedagogical issues such as writing a syllabus, evaluating student writing, constructing class assignments, grading and similar matters. Sample syllabi will be collected and reviewed, along with the textbooks that have been used for various introductory classes. Students will interview those who have experience in teaching introductory courses and will create a syllabus of their own for a course relevant to their individual subfield in anthropology.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 8110. Problems in Archaeology. 3 Credit Hours.
Consideration of special theoretical and methodological problems in archaeology. Topical and area emphasis varies by semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ANTH 8310. Problems in Socio-Cultural Anthropology. 3 Credit Hours.
A seminar oriented to specific research issues. Topics vary from semester to semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
ANTH 8315. Writing for Anthropologists. 3 Credit Hours.
Reading and analysis of key ethnographic texts. Major topics include: development of ethnography as a genre in the twentieth century; regional patterns
in ethnographic data and their relation to theory formation; postmodern critiques of ethnography; the influence of ethnography on other disciplines; and
the use of ethnographies in teaching anthropology.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 8320. Problems in Ethnology. 3 Credit Hours.
Reading and analysis of key ethnographic texts. Major topics include: development of ethnography as a genre in the 20th-century; regional patterns in
ethnographic data and their relation to theory formation; postmodern critiques of ethnography; the influence of ethnography on other disciplines; and the
use of ethnographies in teaching anthropology.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ANTH 8330. Problems in Anthropological Methodology. 3 Credit Hours.
A seminar in research design and grant writing for advanced students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ANTH 8340. Advanced Seminar in Social Anthropology. 3 Credit Hours.
Oriented to specific research issues. Topics vary by semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ANTH 8344. Seminar in Expressive Culture. 3 Credit Hours.
This course explores the major anthropological approaches to the relationship between objects and social life, with a particular focus on art as especially illuminating. Using examples from Africa, the Middle East, Oceania, Europe, and the United States, the following themes are analyzed: how and why are objects categorized (e.g., as art objects, ritual objects, or ethnographic objects); the debate over the cross-cultural applicability of "art" and "aesthetics"; the ideologies of the "artist" in different societies; the ways that different objects are used to define groups of people (e.g., according to clan, race, gender, class, nationality); the relationship between the exchange/circulation of objects and social relations between different groups; the commoditization of objects; the international trade in tourist objects and art; and the role of museums and anthropologists in representing cultures through objects.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 8366. Violence: An Anthropological Approach. 3 Credit Hours.
In this seminar we will establish a set of key concepts with which to better understand the phenomenon of violence historically and in modern times. We begin with experiences of violence recorded by men and women in the past, focusing first on slavery and then on war and terrorism. In subsequent weeks we consider how words, pictures, and physical harm make violence, how violence silences people, and how it creates unsafe spaces. We will be concerned, too, with why and how violence is structured and expressed at home, in courts, in prisons, and in "business."

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 8408. Approaches in the Anthropology of Visual Communication I. 3 Credit Hours.
The course has a survey approach; the theoretical overview is grounded in a perspective that applies concepts of culture to processes of visual communication.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
ANTH 8409. Approaches in the Anthropology of Visual Communication II. 3 Credit Hours.
Examination of an anthropological approach to the study of the uses of the body, space, and the built environment, film, photographic, and television theories of construction and reception, art and aesthetics, cyberspace, and museums.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 8429. Problems in the Anthropology of Visual Communication. 3 Credit Hours.
Advanced seminar devoted to problematic aspects of visual media, research, fieldwork, production, exposition of issues central to relationships of anthropology, media, and visual communication. Topics vary by semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 8435. Seminar in Visual Anthropology and the Arts. 3 Credit Hours.
A seminar oriented to specific research issues, with topics varying from semester to semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ANTH 8550. Current Issues in Linguistic Anthropology. 3 Credit Hours.
A themed seminar devoted to key areas of contemporary research in linguistic anthropology and allied fields of study. The seminar theme varies according to the instructor's areas of expertise, students' areas of interest, and curricular needs. Contact the instructor for details.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ANTH 9082. Independent Study. 1 to 12 Credit Hour.
Special study on a particular aspect of anthropology under the supervision of an appropriate faculty member. No more than six semester hours can be counted toward degree requirements.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ANTH 9982. Independent Study. 1 to 12 Credit Hour.
Specialized study and research under the supervision of a faculty member while in the coursework phase of the program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ANTH 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
Registration required each semester while preparing for the Preliminary examinations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ANTH 9996. Master's Essay. 1 to 12 Credit Hour.
Students who are doing research and writing for their M.A. thesis should register for this class. Credit does not count toward either the 24 s.h. requirement for MA or the 48 s.h. requirement for the Ph.D.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ANTH 9998. Pre-Dissertation Research. 1 to 6 Credit Hour.
Intended for students who have completed their qualifying and comprehensive exams and are preparing the dissertation proposal.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
ANTH 9999. Dissertation Research. 1 to 6 Credit Hour.
Only students elevated to candidacy and writing the dissertation should register for this course.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**Student Attribute Restrictions:** Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

**Repeatability:** This course may be repeated for additional credit.

**Applied Behavior Analysis (ABA)**

**Courses**

ABA 5302. Students with Autism Spectrum Disorders: Effective Teaching Strategies. 3 Credit Hours.
The course overviews instructional, curricular and behavioral intervention strategies for students with autism spectrum disorders within various settings based on the science of applied behavior analysis.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

ABA 5303. Ethics and Applied Behavior Analysis. 3 Credit Hours.
This course provides the student with an overview of ethical practices and considerations for behavior analysts working across a variety of applied settings, including schools and agencies that support people with disabilities.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

ABA 5304. Concepts and Principles of Behavior Analysis. 3 Credit Hours.
This course provides the student with an introduction to the concepts and principles of behavior analysis. Core concepts including motivation, reinforcement, punishment, extinction, and rule governed and verbal behavior will be covered, along with examples of behavior change techniques that employ these concepts.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

ABA 5305. Single Subject Research Design. 3 Credit Hours.
This course provides an overview of strategies for designing and conducting single-subject research in special education. Competencies include selection of independent and dependent variables for research, measurement tactics, research design, establishing generality of results, and ensuring the integrity of research procedures. The methods discussed are not specific to any disability or age level; rather, they are a general set of methods for conducting and interpreting single-subject research.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

ABA 5306. Organizational Behavior Management - OBM. 3 Credit Hours.
This course is an introduction to Organizational Behavior Management, a rapidly growing field that applies the principles, methods, and empirical generalizations of Behavior Analysis to improving human performance in organizations. Working from a theoretical basis, students will learn how to diagnose performance discrepancies in organizational settings, design and evaluate appropriate behavior-based solutions.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

ABA 5307. Experimental Analysis of Behavior - EAB. 3 Credit Hours.
This course will review basic research (animal research and human operant research) in learning and behavior analysis. Students will become familiar with the basic principles of learning and behavior analysis by reading and discussing original laboratory research that lead to basic learning theories.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.
ABA 5676. Applied Behavior Analysis. 3 Credit Hours.
Introduction to the functional analysis of behavior of children in the school setting. Includes behavior theory, assessment, interaction, and evaluation. A behavior-change program is conducted.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ABA 8787. Seminar on Verbal Behavior. 3 Credit Hours.
Advanced course in applied behavior analysis with an emphasis on verbal behavior. Designed to provide students with an overview of verbal behavior (as defined in the field of applied behavior analysis) and an overview of its practical application in teaching language to children with diagnosed language delays.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ABA 9387. Practicum in Applied Behavior Analysis. 1 to 6 Credit Hour.
This course is one of two required 150-hour practica within the ABA Program (6 course credits total). The goals of the practica are to: 1) Broaden your range of competencies in the field of ABA in real-life settings under the tutelage of seasoned ABA clinical or research supervisors. The range of competencies upon which you will be evaluated by your site supervisor (not this instructor) can be found at the online ABA Practicum Evaluation link: http://edtemple.org/aba/practicum-student-evaluation; 2) Use practical experience to develop 3 research questions for possible exploration for your Master's Research Project, submitted through Blackboard; 3) Develop ABA written presentation skills through a case presentation, submitted through Blackboard; 4) Complete short discussion board assignments; 5) Build networks for future employment in our field. To this end students are encouraged to complete their practica in settings other than those in which they are presently employed. Students petitioning for an exception should first consult their advisor to provide a rationale for the exception, complete the exception form located in the masters program handbook, and then provide a plan to ensure that the practica experiences will be distinguished from their compensated duties.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Architecture (ARCH)

Courses

ARCH 5011. Graduate Representation Intensive 1. 3 Credit Hours.
This course focuses on the development of visual literacy, graphic techniques, and 3D formal exploration. Through projects supported by research, graphically-based exercises, and formal investigations, students will be exposed to the process of representation in architecture. Development of individual portfolio of design work, a requirement for graduate students in architecture.

Department Restrictions: Must be enrolled in one of the following Departments: Tyler:Architecture.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.

Repeatability: This course may not be repeated for additional credits.

ARCH 5012. Graduate Representation Intensive 2. 3 Credit Hours.
This course focuses on the development of visual literacy, graphical techniques, and 3D formal exploration. Through projects supported by research, graphically-based exercises, and formal investigations, students will be exposed to the process of representation in architecture. Methods of 2D and 3D analog and digital representation will be addressed. Development of individual portfolio of design work, a requirement for graduate students in architecture.

Department Restrictions: Must be enrolled in one of the following Departments: Tyler:Architecture.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.

Repeatability: This course may not be repeated for additional credits.
ARCH 5013. Facilities for Health Workshop 1. 3 Credit Hours.
The workshop uses interdisciplinary and collaborative approaches to address innovation in health design and facilities. The workshop focuses on human factors and dimensions, habits, and motions of the human body and human bodies as the initiator of design. As such, the workshop looks at issues such as movement, tactility, human engagement, mobility, and related factors as they relate to space and organization.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Art, Tyler School.

Repeatability: This course may not be repeated for additional credits.

ARCH 5014. Facilities for Health Workshop 2. 3 Credit Hours.
The workshop uses interdisciplinary and collaborative approaches to promote innovation in health design and facilities. The workshop focuses on the spatial and procedural functions of healthcare facilities. As such, the workshop explores relationships between small and large user-groups, equipment, and various architectural configurations within healthcare facilities.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Art, Tyler School.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ARCH 5013|Minimum Grade of B-|May not be taken concurrently.

ARCH 5015. Facilities for the Arts Workshop 1. 3 Credit Hours.
The workshop uses interdisciplinary and collaborative approaches to address innovation in arts facilities design and planning. The workshop focuses on human factors and dimensions, habits, and motions of the human body and human bodies as the initiator of design. As such, the workshop looks at issues such as movement, tactility, human engagement, mobility, and related factors as they relate to space and organization.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may not be repeated for additional credits.

ARCH 5016. Facilities for the Arts Workshop 2. 3 Credit Hours.
The workshop uses interdisciplinary and collaborative approaches to address innovation in arts facilities design and planning. The workshop focuses on the spatial and procedural functions of arts facilities. As such, the workshop explores relationships between small and large user-groups, equipment, and various architectural configurations within arts facilities.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ARCH 5015|Minimum Grade of B-|May not be taken concurrently.

ARCH 5017. Facilities Workshop 1. 3 Credit Hours.
The workshop uses interdisciplinary and collaborative approaches to address innovation in facilities design and planning. The workshop focuses on human factors and dimensions, habits, and motions of the human body and human bodies as the initiator of design. As such, the workshop looks at issues such as movement, tactility, human engagement, mobility, and related factors as they relate to space and organization.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may not be repeated for additional credits.
ARCH 5018. Facilities Workshop 2. 3 Credit Hours.
The workshop uses interdisciplinary and collaborative approaches to address innovation in facilities design and planning. The workshop focuses on the spatial and procedural functions of facilities. As such, the workshop explores relationships between small and large user-groups, equipment, and various architectural configurations within facilities.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ARCH 5017|Minimum Grade of B-|May not be taken concurrently.

ARCH 5033. Project Planning and Programming. 3 Credit Hours.
A course covering the general processes related to the planning, programming, design, construction and occupancy of facilities, including long range, strategic and tactical planning, the relationship between facility planning and business planning, organization of sites, buildings and interiors. Also covered are specific tools and techniques for these functions, including design and construction documentation and contracts, facility inventories, space planning and relocation management, construction and installation specifications, value engineering, post-occupancy evaluation, contract management and cost estimating techniques.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ARCH 5131|Minimum Grade of B-|May not be taken concurrently.

ARCH 5096. Health Facilities Practice and Management. 3 Credit Hours.
The course exposes students to the history, development and current status of the health facilities management profession and develops understandings of the trends and dynamics of contemporary health facilities management practice.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Art, Tyler School.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ARCH 5131|Minimum Grade of B-|May not be taken concurrently.

ARCH 5122. Graduate Design Foundation Intensive. 6 Credit Hours.
Students in this course will develop rigorous design thinking through making and the integration of material, craft, tectonic and visual practice. Development of the design crit plus methods of communicating design objectives. Scale: artifact, body and spatial envelope. Development of individual portfolio of design and graphic work as required for the M Arch degree.

Department Restrictions: Must be enrolled in one of the following Departments: Tyler:Architecture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.

Repeatability: This course may not be repeated for additional credits.

ARCH 5131. Form and Function in Health and Environments. 3 Credit Hours.
The course examines the relationship of form, space, and function in healthcare facilities and environments. Using case studies of current facilities, the course looks at the role of design and particular needs for healthcare. The course examines the role of an interdisciplinary approach, where health experts, facilities and design experts, and other related professionals work together to develop state of the art healthcare facilities and environments.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Art, Tyler School.

Repeatability: This course may not be repeated for additional credits.
ARCH 5132. Current Topics in Health Facilities Planning and Design. 1 Credit Hour.
The course examines trends and best practices in health facilities planning and design. Industry experts will present and discuss their work and share relevant case studies of leading projects in healthcare design and facilities. Topics include design processes and solutions, integrated strategic planning, client and community relationships, long-term projections for facilities, and post-occupancy evaluation. Note: This course may be taken up to three times provided that there is a different instructor each time. For further information, check with your advisor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Art, Tyler School.

ARCH 5133. Current Topics in Healthy Communities and Design. 1 Credit Hour.
The course examines the role of design for human well-being, including physical, mental, and social health. Industry experts will present and discuss their work and share relevant case studies that explore the challenges, opportunities and successful strategies to create communities that encourage healthy practices. Topics include healthy buildings; social equity; healthy transportation networks; innovative urban design; active communities and public space; food access; high performance affordable housing; air quality; secure communities; and mobility and accessibility. Note: This course may be taken up to three times provided that there is a different instructor each time. For further information, check with your advisor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Art, Tyler School.

ARCH 5134. Current Topics in Resilience and Design. 1 Credit Hour.
The course examines trends and best practices in how to design buildings, plan communities, and construct infrastructure that persist and thrive amid predicted and unforeseen disruptions. Industry experts will present and discuss their work and share relevant case studies in the purposeful design of buildings, communities, and regions capable of maintaining livable conditions when faced with an interruption of normal services. Topics include adaptation to a wide range of impacts as a result of climate change, such as increased intensity of storms, higher precipitation, coastal and inland flooding, increased severity of droughts, wildfires, warming temperatures, power outages, and thawing permafrost. Note: This course may be taken up to three times provided that there is a different instructor each time. For further information, check with your advisor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Art, Tyler School.

ARCH 5135. Current Topics in Energy and Performance. 1 Credit Hour.
The course examines innovative practices used to predict and measure energy usage in buildings. Industry experts will present and discuss their work and share relevant case studies that explore the challenges, opportunities and successful strategies to design energy efficient, high performance buildings. Topics include energy modeling and simulations; energy-efficient building operations; energy-related problems in buildings; and metrics of energy flows in buildings. Note: This course may be taken up to three times provided that there is a different instructor each time. For further information, check with your advisor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Art, Tyler School.

ARCH 5136. Current Topics in Fabrication and Making. 1 Credit Hour.
The course examines innovative design and fabrication techniques. Industry experts will present and discuss their work and share relevant case studies that explore tools, processes, and techniques by which products, components, and buildings are made. Topics include digital and analog fabrication; robotics; prefabrication; prototyping; and mass production. Note: This course may be taken up to three times provided that there is a different instructor each time. For further information, check with your advisor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Art, Tyler School.

ARCH 5137. Current Topics in Visualization. 1 Credit Hour.
The course examines innovative practices used for the visualization, representation, and documentation of objects, buildings, and environments. Industry experts will present and discuss their work and share examples of the current tools and techniques. Topics include still image production such as rendering and collage; building information modeling; augmented and virtual reality; and animation. Note: This course may be taken up to three times provided that there is a different instructor each time. For further information, check with your advisor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Art, Tyler School.
ARCH 5138. Current Topics in Materials and Design. 1 Credit Hour.
The course examines innovative materials and their applications and use in design. Industry experts will present and discuss their work and share relevant case studies. Topics will address a range of issues related to sustainable and advanced materials include traditional and novel materials and uses; responsive materials; smart materials; haptic technologies; manufacturing innovations. Note: This course may be taken up to three times provided that there is a different instructor each time. For further information, check with your advisor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Art, Tyler School.

ARCH 5141. Architectural History 1: Ancient through Renaissance. 3 Credit Hours.
Traces the history of Western architecture from the ancient world to the high renaissance and mannerism of the late 16th century. The evolution of architectural thought, various formal languages (styles) and theoretical concepts are studied through the examination of selected buildings within their specific political, social, economic, and cultural milieu. Emphasis on the analysis of the ancient temple and the Christian church. Development of individual portfolio of design work, a requirement for graduate students in architecture.

Department Restrictions: Must be enrolled in one of the following Departments: Tyler:Architecture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.
Repeatability: This course may not be repeated for additional credits.

ARCH 5142. Architectural History 2: Renaissance through 20th Century. 3 Credit Hours.
Traces the history of Western architecture from the 17th century through the 20th century. The evolution of architectural thought, various languages (styles) and theoretical concepts studied through the examination of selected buildings within their specific political, social, economic, and cultural milieu. Analysis of the significant buildings of the baroque and rococo, the neo-classic and the romantic, modernist, and post-modernism periods. Development of individual portfolio of design work, a requirement for graduate students in architecture.

Department Restrictions: Must be enrolled in one of the following Departments: Tyler:Architecture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.
Repeatability: This course may not be repeated for additional credits.

ARCH 5152. Materials and Methods of Construction. 3 Credit Hours.
Introduction to construction materials, fundamentals of building construction, methods of assembling building systems in an integrated manner, and costing. Introduces specific regulatory issues dealing with zoning regulations, building codes, and barrier-free access requirements within the context of contemporary building techniques. Methods of construction in wood, masonry, concrete, and steel are described in detail and issues of enclosure, roofing, insulation, and finishes are presented. The course carries technical drawing requirements. Development of individual portfolio of design work, a requirement for graduate students in architecture.

Department Restrictions: Must be enrolled in one of the following Departments: Tyler:Architecture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.
Repeatability: This course may not be repeated for additional credits.

ARCH 5231. Graduate Design Studio 1. 6 Credit Hours.
The house as essential site of architecture. Consideration of relationships between program, culture, society and form making at a domestic scale; consideration of structure, space, shelter and place making; methods of construction, tectonics and detailing as design concerns; introduction to precedent study as research technique. Development of individual portfolio of design work, a requirement for graduate students in architecture.

Department Restrictions: Must be enrolled in one of the following Departments: Tyler:Architecture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ARCH 5122|Minimum Grade of B-|May not be taken concurrently.
ARCH 5232. Graduate Design Studio 2. 6 Credit Hours.
Studio with environmental sustainability focus - energy and resource use, hydrology, sustainable materials, infrastructure and building methods, recycling, environmental performance and quality; emphasis on systems and details (very large and very small); development of techniques for environmental analysis (observation, data analysis etc.); development of ecological and environmentally responsive design proposals; program development; introduction to design collaboration. Development of individual portfolio of design work, a requirement for graduate students in architecture.

Department Restrictions: Must be enrolled in one of the following Departments: Tyler:Architecture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ARCH 5122|Minimum Grade of B-|May not be taken concurrently
AND ARCH 5231|Minimum Grade of B-|May not be taken concurrently)

ARCH 5251. Structural Analysis for Architects. 3 Credit Hours.
This course covers loadings determination and evaluation, resolution and equilibrium of force systems, truss analysis, centroids, moments of inertia, shear and bending moment diagrams, basic beam, column, and system design. Development of individual portfolio of design work, a requirement for graduate students in architecture.

Department Restrictions: Must be enrolled in one of the following Departments: Tyler:Architecture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.

Repeatability: This course may not be repeated for additional credits.

ARCH 5252. Str Des for Architects 1. 3 Credit Hours.
Application of principles of engineering mechanics to layout, analysis, design, and detailing of structural elements in steel and wood of simple buildings. Flexural theory including elastic and plastic design is taught. Students will be familiarized with current building design codes as they relate to the structural design of building elements.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.

Repeatability: This course may not be repeated for additional credits.

ARCH 5253. Str Des for Architects 2. 3 Credit Hours.
Application of principles of engineering mechanics to layout, analysis, design, and detailing of structural elements in concrete and masonry of simple buildings. Students will be familiarized with current building design codes as they relate to the structural design of building elements.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.

Repeatability: This course may not be repeated for additional credits.

ARCH 5296. Movements in Modern Architecture. 3 Credit Hours.
History and theories of the architecture and urbanism of the modern period, from the beginning of the 19th century until the 1960's. Key ideas, texts and iconic buildings from the USA, Europe and other sites of the modernist diaspora are discussed. Development of individual portfolio of design work, a requirement for graduate students in architecture.

Department Restrictions: Must be enrolled in one of the following Departments: Tyler:Architecture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.

Repeatability: This course may not be repeated for additional credits.
ARCH 5351. Env Control Systems 1. 3 Credit Hours.
This course discusses the thermal and environmental processes that affect buildings and develops techniques for designers to respond to and manipulate thermal environments in ways that are integral with other building systems. Mechanical, electrical, and plumbing systems, heating, ventilation, and air-conditioning (HVAC) equipment, vertical transportation, communication, security, and fire protection systems and introduced. These are discussed against a backdrop of the principles of sustainability and environmental responsibility.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.
Repeatability: This course may not be repeated for additional credits.

ARCH 5596. Seminar in Architectural Theory. 3 Credit Hours.
Theories of architecture and urbanism during the modern and contemporary periods; participation in critical theoretical discussions and the development of a research paper in response to critical feedback. The course serves to lay the ground for the theoretical development of thesis ideas. Development of individual portfolio of design work, a requirement for graduate students in architecture.

Department Restrictions: Must be enrolled in one of the following Departments: Tyler:Architecture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.
Repeatability: This course may not be repeated for additional credits.

ARCH 8000. Spec Top Sem in Practice. 3 Credit Hours.
Graduate level seminar to familiarize and engage students in issues of Integrated Practice. The course centers on a discussion of major impacts of practice, and the ethical issues and responsibilities that we are faced with in the current era where BIM has the potential to change the roles in built environment disciplines, and impacts of globalization and sustainability drive our needs. The course addresses changes brought on in technology and practice management. Discussion and research can span a range of issues that affect practice.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.
Repeatability: This course may be repeated for additional credit.

ARCH 8011. Adv Arch Des Studio 1. 6 Credit Hours.
Design studio to familiarize students with current urban design strategies and their historical precedents. Students will engage in generative analysis of urban systems, economies, structures, infrastructures, spaces and / or cultures, involving observation and data collection, visualization, program development and its spatio / temporal resolution and visualization. The studio may involve collaboration with aligned fields or disciplines e.g. landscape architecture, media studies, geography and urban studies, community and regional planning and / or outside agencies or groups. Peer critique and evaluation are utilized as learning techniques.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.
Repeatability: This course may not be repeated for additional credits.

ARCH 8012. Elect Arch Des Studio. 6 Credit Hours.
Advanced architectural design studio. The topic of the studio varies in accordance with faculty expertise and research focus. This might include, but not be limited to an area of architectural, spatial, social, cultural or political practice, an interdisciplinary intersection such as architecture + biology / geology / war / the media / gender or business; research into materials, energy, structure, scripting, fabrication or other computational technologies. The course develops observational techniques and data collection, management and visualization appropriate to the topic of the studio. It requires spatio / temporal / material development, resolution and representation of an architectural design strategy at appropriate scales. Collaboration with aligned fields or disciplines may be undertaken if it is appropriate to the topic of the studio. Peer critique and evaluation are utilized as learning techniques and the capacity for independent work is developed. The course must be taken once, but may be taken up to three times for required credits as long as the topic covered is substantially different each time.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.
Repeatability: This course may be repeated for additional credit.
ARCH 8013. Comp Arch Design Studio. 6 Credit Hours.
Comprehensive design studio: the integration of structural and environmental systems, programming, tectonics and detailing into architectural design and expression in holistic and environmentally sustainable ways; comprehensive representation of design; development of time management skills, peer critique and self evaluation; interaction with consultants.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.

Repeatability: This course may not be repeated for additional credits.

ARCH 8014. Architectural Design for Health. 6 Credit Hours.
Advanced architectural design studio focused on design for health and health facilities. This will include understanding of human factors, equipment needs and trends, health design guidelines, design for well-being, etc. The course develops observational techniques and data collection, management and visualization appropriate to the topic of the studio. It requires spatio / temporal / material development, resolution and representation of an architectural design strategy at appropriate scales. Collaboration with aligned fields or disciplines may be undertaken if it is appropriate to the topic of the studio. Peer critique and evaluation are utilized as learning techniques and the capacity for independent and collaborative design work is developed.

Department Restrictions: Must be enrolled in one of the following Departments: Tyler:Architecture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ARCH 8015. Urban Ecologies and Design. 6 Credit Hours.
Advanced architectural design studio focused on urban design. This will include understanding of human and community well-being in urban environments, environmental design trends, urban design guidelines, etc. The course develops observational techniques and data collection, management and visualization appropriate to the topic of the studio. It requires spatio / temporal / material development, resolution and representation of an architectural design strategy at appropriate scales. Collaboration with aligned fields or disciplines may be undertaken if it is appropriate to the topic of the studio. Peer critique and evaluation are utilized as learning techniques and the capacity for independent and collaborative design work is developed.

Department Restrictions: Must be enrolled in one of the following Departments: Tyler:Architecture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ARCH 8016. Advanced Technologies and Design. 6 Credit Hours.
Advanced architectural design studio focused on advanced technologies in architectural design. This can include the range of current and emerging technologies in design process and implementation, visualization, etc. The course develops observational techniques and data collection, management and visualization appropriate to the topic of the studio. It requires spatio / temporal / material development, resolution and representation of an architectural design strategy at appropriate scales. Collaboration with aligned fields or disciplines may be undertaken if it is appropriate to the topic of the studio. Peer critique and evaluation are utilized as learning techniques and the capacity for independent and collaborative design work is developed.

Department Restrictions: Must be enrolled in one of the following Departments: Tyler:Architecture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ARCH 8096. Professional Practice. 3 Credit Hours.
The course is required for internship in the architectural profession. It exposes students to the history, development and current status of the architectural profession and professional education and develops understandings of the trends and dynamics of contemporary architectural practice. It discusses what is required to properly serve clients and the common good; how to pursue, win, negotiate and prepare agreements and contracts; how to organize, manage, design, control costs, produce and administer contracts for the construction of architectural projects and how to organize, build and maintain architectural firms.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.

Repeatability: This course may not be repeated for additional credits.
ARCH 8100. Spec Top Case St in Arch. 3 Credit Hours.
Graduate level seminar that centers on comprehensive case studies in architecture as a form of primary research. The seminar discussion and research will focus on architectural works with the aim of learning about important aspects and overlaps that make architecture. In each case, the topics that drive the research and analysis will vary. Topics and issues will be guided by class discussion and the nature, scale and context of the architectural works. The course will address methods of analysis and techniques for visualization and presentation. It requires active participation in class discussions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.

Repeatability: This course may be repeated for additional credit.

ARCH 8131. Arch Research Seminar 1. 3 Credit Hours.
Graduate level research seminar to familiarize and engage students in an area of contemporary urban research, its history, networks, strategies and techniques. It will develop methods and skills for the research and analysis of urban systems, economies, structures, infrastructures, spaces and / or cultures and techniques to visualize data and present research findings. The topic of the seminar varies in accordance with faculty expertise and research focus and might include, but not be limited to, approaches to sustainable urban development, ludic urban design strategies, advocacy based urbanism, user generated cities, computational urbanism, etc. The course takes a seminar format and requires active participation in class discussions. The course is required to be taken once in conjunction with ARCH 8011, but may be taken again for elective credit provided that the topic covered is different each time.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.

Repeatability: This course may be repeated for additional credit.

ARCH 8132. Arch Research Seminar 2. 3 Credit Hours.
Graduate level research seminar to familiarize and engage students in an area of contemporary architectural research, its history, networks, strategies, techniques. The topic of the seminar varies in accordance with faculty expertise and research focus. This might include, though not be limited to, questions about research as architectural practice, about architectural design as research, about architectural history, about architecture as spatial or political practice, or engage in any one of the interdisciplinary intersections currently re-energizing architecture - architecture + biology / war / media studies / post-colonial studies / gender studies / business etc. The course will develop methods and skills for architectural research and analysis and techniques for data visualization and research presentation. The course takes a seminar format and requires active participation in class discussions. The course is required to be taken once, but may be taken again for elective credit provided that the topic covered is different each time.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.

Repeatability: This course may be repeated for additional credit.

ARCH 8133. Arch Research Seminar 3. 3 Credit Hours.
Graduate level research seminar to familiarize and engage students in contemporary research in an area of architectural technology, its history, networks, strategies and techniques. The topic of the seminar varies in accordance with faculty expertise and research focus. This might include, though not be limited to, materials research, energy research, structural research, fabrication, computational technologies, etc. The course will examine the history of the field, develop methods and skills for research and analysis and techniques for data visualization and research presentation. The course takes a seminar format and requires active participation in class discussions. The course is required to be taken once, but may be taken again for elective credit provided that the topic covered is different each time.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.

Repeatability: This course may be repeated for additional credit.

ARCH 8134. Architecture Research Seminar 4 - Urban Innovations: Technology, Environment and Health in Society. 3 Credit Hours.
Graduate level research seminar to familiarize and engage students in an area of current and future trends and innovations in the urban context with a focus on technology, environment, and health. It will develop methods and skills for the research and analysis of urban systems, economies, structures, infrastructures, spaces and / or cultures and techniques to visualize data and present research findings. The topic of the seminar includes approaches to innovation and the integration of technology, natural and designed systems, strategies for a holistic approach to sustainability and healthy cities, human and environmental health and well-being. The course takes a seminar format and requires active participation in class discussions. The course is required to be taken by students in the Architecture for Health concentration of the MS Architecture degree and is an elective for other students.

Department Restrictions: Must be enrolled in one of the following Departments: Tyler:Architecture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
ARCH 8146. Graduate Field Work Report. 1 Credit Hour.
This course requires that students prepare an independent report of their study abroad, field work, or internship experience in a format that is agreed upon with the course coordinator.

Department Restrictions: Must be enrolled in one of the following Departments: Tyler:Architecture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

ARCH 8233. Arch Des St Tokyo (G). 6 Credit Hours.
A complex design investigation incorporating analysis of urban systems, observational research, data collection and analysis and the study of architectural precedents. The course immerses students in a foreign urban and architectural culture and asks them to engage in a complex design investigation, whose topic and scale is variable. Course may be used as equivalent of ARCH 8012 but may only be taken once.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.
Repeatability: This course may not be repeated for additional credits.

ARCH 8234. Arch Des Studio Rome (G). 6 Credit Hours.
A complex design investigation incorporating analysis of urban systems, observational research, data collection and analysis and the study of architectural precedents. The course immerses students in a heritage urban and architectural locale and asks them to engage in a complex design investigation, whose topic and scale is variable. Course may be used as equivalent of ARCH 8012 but may only be taken once.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.
Repeatability: This course may not be repeated for additional credits.

ARCH 8241. Seminar: Analysis Urb Str (G). 3 Credit Hours.
Research on urban systems and forms that have marked the development of Italian and Roman architecture from the 15th to the 18th century and that are now a reference point in every Western city: the piazza, the Roman palazzo, the theatre, the garden. The course is intended as a theoretical and analytical complement to the graduate architecture design studio in Rome. It fulfills the requirements of ARCH 8132.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.
Repeatability: This course may not be repeated for additional credits.

ARCH 8242. Urban Seminar Tokyo (G). 3 Credit Hours.
This course provides students an overview of architecture and urbanization in historic and contemporary Japan. Economic, socio- political and technological forces that have shaped the built environment and architecture are discussed and the work of contemporary Japanese architects are studied and analyzed. The course is a theoretical and analytical complement to the Architecture Design Studio. It fulfills the requirements of ARCH 8132.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.
Repeatability: This course may not be repeated for additional credits.

ARCH 8352. Env Control Systems 2. 3 Credit Hours.
This course covers visual and audio environmental stimuli and architectural design responses to them. In addition, it discusses and introduces techniques for measuring the design of building systems for improved environmental performance, in terms of the efficiency of systems, environmental impact and capital and operational costs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.
Repeatability: This course may not be repeated for additional credits.
ARCH 9182. Independent Study in Architecture. 1 to 3 Credit Hour.
Graduate level independent study carried out by students interested in research that focuses on the various subdisciplines in architecture. Students must submit a proposal to a faculty member for review and approval that follows departmental guidelines for independent study. Topics and issues that guide the independent study can vary.

**Department Restrictions:** Must be enrolled in one of the following Departments: Tyler:Architecture.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

ARCH 9280. Special Topics in Communication. 1 to 3 Credit Hour.
Graduate level course that addresses current topics in graphic and visual communication in architecture.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

ARCH 9285. Architecture Internship. 1 to 3 Credit Hour.
This course expands students' knowledge and professional experience through internships in architectural and other built environment firms. Students will be exposed to methods of practice and design thinking. The course requires that the student prepare a report in a format agreed upon with the course coordinator.

**Department Restrictions:** Must be enrolled in one of the following Departments: Tyler:Architecture.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

ARCH 9380. Special Topics in History or Culture. 1 to 3 Credit Hour.
Graduate level course that addresses current topics related to architectural history and/or cultural studies.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

ARCH 9480. Special Topics in Technology. 1 to 3 Credit Hour.
Graduate level course that addresses current topics in digital or building technology in architecture.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

ARCH 9580. Special Topics in Site and Context. 1 to 3 Credit Hour.
Graduate level course that addresses current topics in site and context in architecture.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

ARCH 9682. Independent Research. 1 to 3 Credit Hour.
Graduate level independent research in architecture. Students work with a faculty member according to an agreed upon syllabus and schedule. Topics and issues that guide the course work will vary.

**Department Restrictions:** Must be enrolled in one of the following Departments: Tyler:Architecture.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

ARCH 9991. Directed Research. 3 Credit Hours.
The development of a self motivated architectural design inquiry under the guidance of a faculty co-coordinator. This includes design research, the development of a design program, site investigation, analytical and speculative design investigations and/or experimentation with advanced visualization techniques. The course is seminar based and engages students in critical dialogue with their own and other students' work. It prepares students for undertaking an architectural design thesis the following semester.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**Degree Restrictions:** Must be enrolled in one of the following Degrees: Master of Architecture.

**Repeatability:** This course may be repeated for additional credit.
ARCH 9996. Arch Design Thesis. 6 Credit Hours.
Self directed architectural design thesis that follows on the research and design inquiries conducted in the fall semester. The course requires that students demonstrate the ability to undertake design research, develop a design program, conduct analytical and speculative design investigations and utilize advanced visualization techniques in the representation of their work. It culminates in a formal juried presentation and a textual document of a publishable standard of a graduate level design thesis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Architecture.

Repeatability: This course may be repeated for additional credit.

Art (ARTU)

Courses

ARTU 5301. Introduction to Relief Painting. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ARTU 5601. Introduction to Computer Imaging. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ARTU 5605. Introduction to Internet Imaging. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ARTU 5801. Basic Photography Black and White I. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ARTU 5811. Introduction to Digital Photography. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Art Education (ARTE)

Courses

ARTE 5003. Special Needs K-12 Students in the Art Room. 3 Credit Hours.
Learning about the scope of different disabilities that may present themselves in the art room: the identification of different disabilities including emotional/behavior disorders, mental retardation, learning disabilities, physical disabilities. Effective instructional strategies for special needs students K-12 in the art room, including methods of assessment and accommodations. Research projects.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Co-requisites: ARTE 5888.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ARTE 9187|Minimum Grade of B-|May not be taken concurrently.

ARTE 5082. Independent Study. 1 to 3 Credit Hour.
Self-directed study and research initiated by a graduate student with an independent study contract developed in conjunction with, and supervised by, a faculty member in the art education and community arts practices department.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
ARTE 5100. Special Topics. 3 Credit Hours.
A selected topic in the field of art, art education, art therapy or community arts will be examined. NOTE: Field trips may be required for this class.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ARTE 5202. Artists Teaching in Communities. 3 Credit Hours.
This course offers graduate students from all arts and culture fields an overview of the teaching artist profession. Teaching artists work in art centers, community-based arts programs, health facilities, senior centers, prisons, museums, in-school and out-of-school sites. Direct fieldwork and site-specific research will examine the intersections of one’s personal art practices and community-based art education. The experiential component will be accompanied by scholarly inquiry into the role and relevance of artistic engagement in public life. Course material will encompass the history of the teaching artist profession, theory and practice with emphasis on pedagogical approaches, survey of settings and practical applications. The course will equip students with tools that can be used in developing and marketing arts residencies in multiple settings. Guest presentations by teaching artists and community arts administrators will be included in this course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Repeatability: This course may not be repeated for additional credits.

ARTE 5888. Student Teaching. 6 Credit Hours.
Students assume responsibility for direction of classes and lesson planning in both elementary and secondary schools. The practical experience is enriched through seminar discussions focusing on the enterprise of teaching. NOTE: Application Materials must be submitted during pre-registration the semester prior to taking the course. Meeting with the Art Education advisor is recommended.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Co-requisites: ARTE 5003.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
ARTE 9187|Minimum Grade of B-|May not be taken concurrently.

ARTE 8001. Contemporary Issues in Art Education. 3 Credit Hours.
A seminar designed to examine some of the current literature in the field of Art Education together with its problems and the fundamental concepts derived from related disciplines.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ARTE 8002. History of Art Education. 3 Credit Hours.
A historical and philosophical overview of art teaching traditions and beliefs in American schools, with special emphasis on the late nineteenth and early twentieth centuries.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ARTE 8003. Art Education Research. 3 Credit Hours.
Sessions arranged through consultation with the advisor. Examination of the traditional and current designs related to descriptive, empirical, and experimental studies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ARTE 8004. Introduction to Art Therapy. 3 Credit Hours.
This course is designed to offer students a didactic and experiential introductory overview of the field of art therapy. Material covered will include history, theory, and practice of art therapy processes and approaches as well as a survey of populations, settings, and applications. Lectures, readings, discussion, audiovisual presentations, experiential exercises, and guest presentations comprise the structure of this course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
ARTE 8011. Interdisciplinary Seminar in Community Arts. 3 Credit Hours.
An introduction to the field of Community Arts, focusing on history and theory, and bringing students into contact with established community arts projects in Philadelphia through site visits and guest lectures. Issues of aesthetics, race and social class are an implicit part of community-based arts practices and are a focal point of the course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ARTE 8087. Research and Project Planning Seminar in Community Arts. 3 Credit Hours.
Working with faculty artists in a particular community, students engage in community data collection using methodologies of personal interviews, observation, and background cultural research with a focus on relationship building. Research finding are integrated to address emerging themes through conceptual design of an art project in a research paper outlining key community themes/issues and proposed art projects. Students will document community knowledge and oral histories and share stories with members of community. Stories will be incorporated into artworks that reflect community traditions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ARTE 8011|Minimum Grade of B|May not be taken concurrently.

ARTE 8187. Field Work in Community Arts. 3 Credit Hours.
Students work with artists in partnership with local community arts programs, organizations, and families, collaborating in the creation of a community arts production. In the weekly seminar, students reflect on their practice, receive supervision and conduct team research to develop their contributions to community arts projects.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ARTE 8011|Minimum Grade of B|May not be taken concurrently)
AND (ARTE 8087|Minimum Grade of B|May not be taken concurrently)

ARTE 8287. Evaluation and Documentation Seminar in Community Arts. 3 Credit Hours.
In this course students will learn and apply methods for evaluation and ongoing work in the phase of Community Arts projects which follows public exhibition/performance, including assessment of artistic process, product, and community impact; approaches to continuing community involvement, and transitioning of project ownership to the community. The course offers students a variety of media for documenting and assisting community members to document Community Arts projects that may take the form of scholarly articles, video and audio documentary, community feedback and personal essays/journals that contribute knowledge to the field of Community Arts.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ARTE 8011|Minimum Grade of B|May not be taken concurrently)
AND (ARTE 8087|Minimum Grade of B|May not be taken concurrently)
AND (ARTE 8187|Minimum Grade of B|May not be taken concurrently)

ARTE 9187. Graduate Materials and Methods in Art. 3 Credit Hours.
Aims of art education as related to elementary and secondary curricula. A weekly school assignment in which the student both observes an art class and serves as an aide to the teacher.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
(EPSY 5541|Minimum Grade of B|May not be taken concurrently)
AND (EPSY 5531|Minimum Grade of B|May not be taken concurrently)
ARTE 9991. Directed Research. 1 to 3 Credit Hour.
Directed Research while still in the coursework phase of the program.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

ARTE 9995. Master’s Thesis Research & Writing. 1 Credit Hour.
In this course, Master's students in Art Education will work closely with a faculty member on research and writing of the Master's Thesis.

**Department Restrictions:** Must be enrolled in one of the following Departments: Tyler:Art Ed Comm Art Practice.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Art, Tyler School.

**Repeatability:** This course may be repeated for additional credit.

**Pre-requisites:**
(ARTE 8001|Minimum Grade of B|May not be taken concurrently
AND ARTE 8002|Minimum Grade of B|May not be taken concurrently
AND ARTE 8003|Minimum Grade of B|May not be taken concurrently)

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**Art History (ARTH)**

**Courses**

**ARTH 5360. Topics in Latin American Art and the Caribbean. 3 Credit Hours.**
A selected topic on Latin American art and visual culture will be examined. Topics can range from Pre-Columbian and Mesoamerican to colonial and postcolonial, Caribbean, U.S. Latino, and modern and contemporary art of Latin America. NOTE: Designed, in particular, for current students enrolled in the MFA programs.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**ARTH 5370. Topics in Contemporary Art. 3 Credit Hours.**
A selected topic on contemporary art and visual culture will be examined. NOTE: Designed, in particular, for current students enrolled in the MFA programs.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**ARTH 5380. Topics in Global Art. 3 Credit Hours.**
A selected topic on global art and visual culture will be examined. NOTE: Designed, in particular, for current students enrolled in the MFA programs.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**ARTH 5400. Topics in Art History. 3 Credit Hours.**
Selected topics in art history. Note: This course can only be taken twice for credit.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**ARTH 5401. European Crafts Decorative Arts. 3 Credit Hours.**
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.
ARTH 5402. History of Modern Crafts and Design I. 3 Credit Hours.
Traces the ideas, personnel, workshops, objects and styles of the Arts and Crafts Movement from William Morris to Henry Mercer (1850s-ca. 1915) in Europe and the United States. Charles and Margaret Mackintosh in Scotland, Eliel Saarinen in Finland, Charles Ashbee and the Guild of Handicraft in England, Stickley, Roycroft, Frank Lloyd Wright and Tiffany in the U.S., and other key designers/crafters of clay, metal, fiber, wood, glass will be studied. The influence of Japanese art and craft, the development of the various forms of Art Nouveau, and "Arts and Crafts" houses will also be examined.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ARTH 5403. History of Modern Crafts and Design II. 3 Credit Hours.
Continues the study of key schools, workshops, individuals, techniques, attitudes, and styles pertaining to 20th-century craft and design in the U.S. and Europe. Issues include the Bauhaus, the move to modernism, the continuing influence of Arts and Crafts ideas, the studio craft movement, and gender.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ARTH 5405. History of Photography. 3 Credit Hours.
Examination of key developments in the history of modern photography.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ARTH 5408. The History of Printmaking. 3 Credit Hours.
The invention of the printing press in western Europe in the 1400s contributed to important and lasting changes about how people thought about images and image-making. In addition to gaining an understanding of the technical processes involved in the production of books, woodcuts, engravings, etchings, and lithographs, students will focus on the social and economic facets of print communication as an aesthetic and as a compelling component of visual culture. The course is designed chronologically but also according to themes and major artists, with the aim of relating the history of print and book culture to some of the broader cultural and artistic concerns of the period. Some of the central issues we shall discuss are the relationship between manuscript and early book production; the nature of the ‘original’ vs. the ‘copy’; the space of prints as a realm for experimentation and new subject matter; the role of collaboration and also individual graphic virtuosity; and the modern ‘print revivals’ of the 19th and 20th centuries. We also shall reevaluate certain myths about the so-called printing revolution, poised as we are in a new digital age defined as another kind of explosion of images. Major figures we will study in terms of graphic virtuosity are Andrea Mantegna, Albrecht Dürer, Jacques Callot, Hendrick Goltzius, Rembrandt van Rijn, Giovanni Battista Piranesi, Francisco Goya, Edouard Manet, James Abbott McNeill Whistler, Mary Cassatt, Edvard Munch, and Käthe Kollwitz. NOTE: Designed especially for current students enrolled in the MFA programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ARTH 5431. International Cinema. 3 Credit Hours.
Examination of various aspects of international cinema. Past and future topics include Italian Neorealism, Third World Cinema, India-Iraq: Comparative Cinema, German Expressionist Cinema, The "Artist" in Film, and Silent Cinema.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for a total of 6 credit.

ARTH 5451. Painting: Late 19th Century. 3 Credit Hours.
Survey of European painting between 1870 and 1900, concentrating on Realism and Symbolism in France, Belgium, England, Germany, Austria and Scandinavia. Artists to be considered in detail are Monet, Cezanne, Batien-Lepage, Gauguin, Rossetti, Burne-Jones, Whistler, Leighton, Knopff, Menzel, Hodler, Munch and Zorn.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ARTH 5460. Topics in 20th-Century Art. 3 Credit Hours.
Selected topics in 20th-century art. Recent topics include History of Modern Graphic Design.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.
ARTH 5461. Symbolism, Dada, and Surrealism. 3 Credit Hours.
This course investigates certain movements within Modernism that explore fantasy, psychology, imagination, humor, irrationality, violence, the grotesque, the unconscious, the abject, and the absurd. Symbolism and some aspects of Expressionism are approached in relation to the key twentieth-century international developments of Metaphysical Art, Dada and Surrealism. Works in various media are considered, including those outside the visual arts (such as poetry and music), paying particular attention to challenges to the definition of art and the social and political implications of these challenges. Artists considered include: Moreau, Redon, Gauguin, Van Gogh, Munch, Rousseau, de Chirico, Duchamp, Picabia, Tzara, Arp, Man Ray, Breton, Schwitters, Hoch, Grosz, Ernst, Masson, Miro, Magritte, Matta, Kahlo, Tanguy, Dali, Gorky and others.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ARTH 5462. Picasso and Modern Masters. 3 Credit Hours.
This course investigates the work of four major modern artists: Picasso, Matisse, Duchamp, and Brancusi. It places them in a variety of cultural, social, aesthetic, and historical contexts. Because the works of these artists are strongly represented in the Philadelphia Museum and in other local collections, several trips to examine work firsthand are planned.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ARTH 5500. Topics in Art History II. 3 Credit Hours.
Selected topics in art history. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ARTH 5510. Topics in Ancient Art. 3 Credit Hours.
Selected topics in ancient art. Recent topics have included Greek Vase Painting, Greek Architecture, Minoan and Mycenaen Art, Hellenistic and Roman Sculpture, Greek and Roman Monumental Painting, and Curating an Exhibition on the History of Archaeological Illustration. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ARTH 5520. Topics in Medieval Art. 3 Credit Hours.
Courses taught or planned include The Decorated Style: Architecture; Painting and Sculpture in England ca. 1240-1360; French Gothic Manuscript Illumination ca. 1200-1400; and The Visual Culture of Monasticism in Late Antique and Medieval Egypt. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ARTH 5530. Topics in Renaissance Art. 3 Credit Hours.
Recent or planned topics include Artistic Exchange between Italy and Northern Europe; Mannerism Redefined; Color and Meaning in Painting; Renaissance Architecture; Bernini, Caravaggio, and Velasquez; Michelangelo; and The Sacred Image in the Renaissance: Crisis and Resolution. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ARTH 5540. Topics in Baroque Art. 3 Credit Hours.
Selected topics in the art of the Baroque period. Recent topics include Style and the Historiography of Baroque Art. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
ARTH 5550. Topics in 19th-Century Art. 3 Credit Hours.
Recent and planned topics include Manet and 19th century French Criticism; Impressionism and Post-Impressionism; Pre-Raphaelite Painting; Symbolism; Depicting Race; and American Cosmopolitans: Art and Modernity in the Gilded Age, 1870-1913. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ARTH 5560. Topics in 20th-Century Art. 3 Credit Hours.
Recent and planned topics include Art since 1945; Dada and Surrealism; Futurist Art and Theory; and Picasso, Matisse, Duchamp, and Brancusi. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ARTH 5580. Topics in Asian Art. 3 Credit Hours.
A selected topic in the Non-Western history of art will be examined.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ARTH 5600. Topics in Art History III. 3 Credit Hours.
Selected topics in art history. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ARTH 5601. Historiography of Art History. 3 Credit Hours.
Study of key methods and critical approaches in art history.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ARTH 5605. The History of Printmaking and Print Culture. 3 Credit Hours.
The invention of the printing press in western Europe in the 1400s contributed to important and lasting changes about how people thought about images and image-making. In addition to gaining an understanding of the technical processes involved in the production of books, woodcuts, engravings, etchings, and lithographs, students will focus on the social and economic facets of print communication as an aesthetic and as a compelling component of visual culture. The course is designed chronologically but also according to themes and major artists, with the aim of relating the history of print- and book culture to some of the broader cultural and artistic concerns of the period. Some of the central issues we shall discuss are the relationship between manuscript and early book production; the nature of the ‘original’ vs. the ‘copy’; the space of prints as a realm for experimentation and new subject matter; the role of collaboration and also individual graphic virtuosity; and the modern ‘print revivals’ of the 19th and 20th centuries. We also shall reevaluate certain myths about the so-called printing revolution, poised as we are in a new digital age defined as another kind of explosion of images. Major figures we will study in terms of graphic virtuosity are Andrea Mantegna, Albrecht Dürer, Jacques Callot, Hendrick Goltzius, Rembrandt van Rijn, Giovanni Battista Piranesi, Francisco Goya, Edouard Manet, James Abbott McNeill Whistler, Mary Cassatt, Edvard Munch, and Käthe Kollwitz.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Doctor of Philosophy.

College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may not be repeated for additional credits.

ARTH 5610. Topics in Ancient Art II. 3 Credit Hours.
Selected topics in ancient art. Possible topics include Greek Vase Painting, Greek Architecture, Minoan and Mycenaen Art, Hellenistic and Roman Sculpture, Greek and Roman Monumental Painting, and Curating an Exhibition on the History of Archaeological Illustration. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
ARTH 5611. Greek Vase-Painting. 3 Credit Hours.
A survey of Greek vase painting from the late Bronze Age until the period of red figure and black figure painting.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ARTH 5620. Topics in Medieval Art II. 3 Credit Hours.
Courses taught or planned include The Decorated Style: Architecture; Painting and Sculpture in England ca. 1240-1360; French Gothic Manuscript Illumination ca. 1200-1400; and The Visual Culture of Monasticism in Late Antique and Medieval Egypt. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

ARTH 5621. Archeological Program. 3 Credit Hours.
Study in Ancient Art and Archaeology.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ARTH 5630. Topics in Renaissance Art II. 3 Credit Hours.
Recent or planned topics include Artistic Exchange between Italy and Northern Europe; Mannerism Redefined; Color and Meaning in Painting; Renaissance Architecture; Bernini, Caravaggio, and Velasquez; Michelangelo; and The Sacred Image in the Renaissance: Crisis and Resolution. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ARTH 5640. Topics in Baroque Art II. 3 Credit Hours.
Selected topics in the art of the Baroque period. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ARTH 5650. Topics in 19th Century Art II. 3 Credit Hours.
Recent and planned topics include Manet and 19th century French Criticism; Impressionism and Post-Impressionism; Pre-Raphaelite Painting; Symbolism; Depicting Race; and American Cosmopolitans: Art and Modernity in the Gilded Age, 1870-1913. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ARTH 5660. Topics in 20th Century Art II. 3 Credit Hours.
Recent and planned topics include Art since 1945; Dada and Surrealism; Futurist Art and Theory; and Picasso, Matisse, Duchamp, and Brancusi. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ARTH 5665. Modern and Contemporary Art in Latin America. 3 Credit Hours.
This course examines art in Latin America from 1900 to the present. Covering a period of tumultuous societal change in the region, from revolutions to economic booms and military dictatorships, discussions will focus on understanding the distinct contexts of artistic production in various Latin American centers, with particular attention to the artists and artistic movements of Brazil and Mexico and including consideration of major architectural projects. We will examine how artists conceived of their work in relationship to local and international aesthetic and political debates. Students will read criticism and artists' writing from the period as well as recent theory and historical analysis and attention will be placed on developing skills to analyze a range of media and styles, including figurative and abstract practices. NOTE: Designed, in particular, for current students enrolled in MA/PhD programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
ARTH 5670. Topics in Contemporary Art. 3 Credit Hours.
A selected topic on contemporary art and visual culture will be examined.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

ARTH 5680. Topics in Global Art. 3 Credit Hours.
A selected topic on global art and visual culture will be examined.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

ARTH 8400. Seminar Composition Studies: Painting. 3 Credit Hours.

Text or Image? Art or Craft? Page or Book? Essential or Ancillary? As these pairings propose, illustration engages the viewer in complex interrelated processes and hence functions very differently than other art forms. Image and text operate both independently and in combination as signifiers. Perhaps that is partially why we lack a critical framework with which to assess illustrated books. In this online course, we will use digital tools and collaborative technologies to develop evaluative criteria for the illustrated book and then apply this critical framework to an individually-selected case study. The seminar will also assess relevant factors impacting the development of illustrated books, such as cultural diffusion and interchange; patterns of literacy and education; production markets and aesthetic value of craft. Additionally, in the last part of the course, the focus will shift to book illustration in the period after 1850, addressing publishing technologies as well as noteworthy avant-garde exemplars. This has been created as an online course, which allows for a greater flexibility in the student's schedule; it may be adjusted for full classroom or hybrid. NOTE: Designed especially for current students enrolled in the MFA programs, in particular students of Graphic Design.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ARTH 8401. Text + Image: Framing the Modern Illustrated Book. 3 Credit Hours.

In this course we will examine the proliferation of printed images, particularly in western Europe and the Americas, beginning around 1450. Note that we will hold at least half of our weekly classes in the Print Study Room of the Philadelphia Museum of Art and on site at other collections, spending time studying the objects themselves. In addition to gaining an understanding of the processes involved in the making of woodcuts, engravings, etchings, and lithography, students will focus on the conceptual, social, political, and economic aspects of the art of the print. The course is designed chronologically but also according to themes and major artists, with the aim of showing that printmaking has its own history and at the same time relates to the broader cultural and artistic concerns of the period. Major figures we will study in terms of graphic virtuosity include Albrecht Dürer, Marcantonio Raimondi, Jacques Callot, Hendrick Goltzius, Rembrandt van Rijn, Giovanni Battista Piranesi, Francisco Goya, Mary Cassatt, James Abbott McNeil Whistler, and Otto Dix, among others. Students will have the opportunity to develop papers that dovetail with their own fields and interests, as well as with additional strengths of the museum collection, including Japanese, and modern American and Mexican prints. NOTE: Especially designed for current students enrolled in the MFA programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ARTH 8404. The History, Theory, and Practice of Printmaking. 3 Credit Hours.

In this course we will examine the proliferation of printed images, particularly in western Europe and the Americas, beginning around 1450. Note that we will hold at least half of our weekly classes in the Print Study Room of the Philadelphia Museum of Art and on site at other collections, spending time studying the objects themselves. In addition to gaining an understanding of the processes involved in the making of woodcuts, engravings, etchings, and lithography, students will focus on the conceptual, social, political, and economic aspects of the art of the print. The course is designed chronologically but also according to themes and major artists, with the aim of showing that printmaking has its own history and at the same time relates to the broader cultural and artistic concerns of the period. Major figures we will study in terms of graphic virtuosity include Albrecht Dürer, Marcantonio Raimondi, Jacques Callot, Hendrick Goltzius, Rembrandt van Rijn, Giovanni Battista Piranesi, Francisco Goya, Mary Cassatt, James Abbott McNeil Whistler, and Otto Dix, among others. Students will have the opportunity to develop papers that dovetail with their own fields and interests, as well as with additional strengths of the museum collection, including Japanese, and modern American and Mexican prints. NOTE: Especially designed for current students enrolled in the MFA programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ARTH 8410. Seminar: Comparative Studies in Ancient Techniques. 3 Credit Hours.

An investigation of the methods and technology used in the ancient Mediterranean cultures of Egypt, Anatolia, Greece, and Rome to product art. Reports will cover ceramics, metalworking, jewelry making, glassmaking, painting, sculpture, weaving, architecture, lapidary, and other art forms. Presentations will sometimes be made in studies and sometimes as slide lectures.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Education, Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.
ARTH 8430. Seminar: Problems, Period, Style. 3 Credit Hours.
Selected topics in art history. Past and future topics include Picasso and Duchamp; Methods in Modern Art; Futurist Art and Theory; The Body in Art History; Censorship; Dada and Surrealism; Arts of Asia; Picasso, Matisse, Duchamp, Brancusi; and The 1960s. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Education, Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

ARTH 8440. Seminar: Problems, Period, Style. 3 Credit Hours.
Selected topics in art history. Past and future topics include Picasso and Duchamp; Methods in Modern Art; Futurist Art and Theory; The Body in Art History; Censorship; Dada and Surrealism; Arts of Asia; Public Sculpture; Philadelphia Architecture and Urbanism; and Exhibition Studies. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Education, Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

ARTH 8450. Special Projects. 3 to 6 Credit Hours.
Selected topics in art theory and criticism. Content varies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Education, Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

ARTH 8460. Seminar in Contemporary Art. 3 Credit Hours.
Selected topics in contemporary art. Past and future topics include Abstract Expressionism, Contemporary American Realism, Art of the 1960s, Pop Art, Art of the 1980s, and Contemporary American Realism. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Education, Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

ARTH 8470. Seminar in Modern Art. 3 Credit Hours.
Selected topics in modern art. Past and future topics include American Early Modernism, Art Nouveau, Visionary Art, Landscape Painting, and Monumental Sculpture. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Education, Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

ARTH 8475. Seminar in 19th-Century Art. 3 Credit Hours.
This course is a focused graduate seminar on a topic relating to an aspect of 19th-century art. Recent or planned topics include Édouard Manet and the Origins of Modern Art; French Symbolism; Courbet and Manet; Cézanne; Delacroix; Art and Empire: Cultures of Contact Across Britain and Its Colonies. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.

Repeatability: This course may be repeated for a total of 6 credit.
ARTH 8480. Seminar in Early Modern Art. 3 Credit Hours.
This course is a focused graduate seminar on a topic relating to an aspect of early modern art (c. 1500-1800). Recent or planned topics include The Baroque Altarpiece; Women as Patrons in the Early Modern Period; Art and the Spectator; Illusionism and the Visionary in Italy and Spain; Perception and the Senses in Early Modern Europe; Travelers and Transmission: Movement of Culture in Early Modern Europe. NOTE: Designed for current students enrolled in the MFA programs. This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.

Repeatability: This course may be repeated for a total of 6 credit.

ARTH 8490. Seminar in Global Art. 3 Credit Hours.
This course is a focused graduate seminar on a topic relating to an aspect of global art, of any time period. Possible topics might include Art and Early Modern Trade and Travel; Art Along the Silk Road; The Black Atlantic World; Global Contemporary Art; Contemporary Chinese Art. NOTE: Especially designed for current students enrolled in the MFA programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.

Repeatability: This course may be repeated for additional credit.

ARTH 8530. Seminar: Problems, Period, Style II. 3 Credit Hours.
Selected topics in art history. Future topics include Picasso and Duchamp; Methods in Modern Art; Futurist Art and Theory; The Body in Art History; Censorship; Dada and Surrealism; Arts of Asia; Picasso, Matisse, Duchamp, Brancusi; and The 1960s. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Education, Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

ARTH 8540. Seminar: Problems, Period, Style II. 3 Credit Hours.
Selected topics in art history. Future topics include Picasso and Duchamp; Methods in Modern Art; Futurist Art and Theory; The Body in Art History; Censorship; Dada and Surrealism; Arts of Asia; Public Sculpture; Philadelphia Architecture and Urbanism; and Exhibition Studies. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Education, Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

ARTH 8560. Seminar in Contemporary Art II. 3 Credit Hours.
Selected topics in contemporary art. Future topics include Abstract Expressionism, Contemporary American Realism, Art of the 1960s, Pop Art, Art of the 1980s, and Contemporary American Realism. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Education, Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

ARTH 8570. Seminar in Modern Art II. 3 Credit Hours.
Selected topics in modern art. Future topics include American Early Modernism, Art Nouveau, Visionary Art, Landscape Painting, and Monumental Sculpture. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Education, Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.
ARTH 8610. Problems in Ancient Art. 3 Credit Hours.
Recent topics have included Art in the Age of Augustus; Severan Art; and Ancient Counterfeits, Looting, and the Ethics of Collecting. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

ARTH 8620. Problems in Medieval Art. 3 Credit Hours.
Courses taught recently or planned include The Iconography of Later Medieval Art; Theory & Practice; The Medieval Portal; Carolingian Art; The Icon; The Spaces of the Medieval Church and Their Decoration: Cloister, Choir, and Chapel; and Late Antique and Byzantine Aesthetics. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

ARTH 8630. Problems in Renaissance Art. 3 Credit Hours.
Recent or planned topics include Michelangelo and His Times; After Raphael: Painting in Central Italy; Michelangelo's Last Judgment; Beyond Florence: Artistic Centers in the 15th Century; Palladio and His Legacy; and Titian, Tintoretto, and Veronese. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

ARTH 8635. Problems in Northern Renaissance Art. 3 Credit Hours.
This course is a focused graduate seminar on a topic relating to an aspect of Northern Renaissance Art, ca. 1400-1575. Recent or planned topics include Reconsidering the German Renaissance; Dürer and His World; The Disintegration of the Northern Altarpiece; The Renaissance Print; Northern Realisms; Pieter Bruegel and the Invention of Painted Genres; Art, the Reformation, and Iconoclasms; and Early Modern Trade and the Global Renaissance. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for a total of 6 credit.

ARTH 8640. Problems in Baroque Art. 3 Credit Hours.
Recent and planned topics include The Baroque Altarpiece; The Invention and Evolution of the Early Modern Hero; Baroque Sepulchral Art; Women as Patrons in the Early Modern Period; Historiography of the Baroque; Art and the Spectator; and Illusionism and the Visionary in Italy and Spain. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

ARTH 8645. Problems in Northern Baroque Art. 3 Credit Hours.
This course is a focused graduate seminar on a topic relating to an aspect of Northern Baroque Art, ca. 1575-1700. Recent or planned topics include Rembrandt's Amsterdam; Art, Science, and the Culture of Collecting in Early Modern Europe; The Northern Court Artist; The Golden Age of the Dutch Republic; Art and Early Modern Colonialism; The Hapsburgs and Global Empire; Art and War in the Age of Rubens. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for a total of 6 credit.
ARTH 8650. Problems in 19th-Century Art. 3 Credit Hours.
Recent and planned topics include Courbet and Manet; Cezanne; and Delacroix. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

ARTH 8660. Problems in 20th-Century Art. 3 Credit Hours.
Recent and planned topics include Modern and Postmodern Portraiture, Abstract Expressionism, Art of the 1960s, Art of the 1980s, Censorship, and The 20th Century Metropolis. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

ARTH 8665. Problems in 21st Century Art. 3 Credit Hours.
This course is a focused graduate seminar on a topic relating to an aspect of contemporary and/or 21st-century art. Recent and possible future topics include Black Contemporary Art; Feminism and Contemporary Art; Museums and Curating in the 21st Century; Chinese Contemporary Photography. NOTE: Designed especially for current students in the MA/PhD programs. This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for a total of 6 credit.

ARTH 8670. Problems in Global Art. 3 Credit Hours.
This course is a focused graduate seminar on a topic relating to an aspect of global art, of any time period. Possible topics might include Art and Early Modern Trade and Travel; Art Along the Silk Road; The Black Atlantic World; Global Contemporary Art; Contemporary Chinese Art.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

ARTH 8680. Problems in Asian Art. 3 Credit Hours.
Topics vary.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ARTH 8710. Problems in Ancient Art II. 3 Credit Hours.
Recent topics have included Art in the Age of Augustus; Severan Art; and Ancient Counterfeits, Looting, and the Ethics of Collecting. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.
ARTH 8720. Problems in Medieval Art II. 3 Credit Hours.
Courses taught recently or planned include The Iconography of Later Medieval Art: Theory & Practice; The Medieval Portal; Carolingian Art; The Icon; The Spaces of the Medieval Church and Their Decoration: Cloister, Choir, and Chapel; and Late Antique and Byzantine Aesthetics. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

ARTH 8730. Problems in Renaissance Art II. 3 Credit Hours.
Recent or planned topics include Michelangelo and His Times; After Raphael: Painting in Central Italy; Michelangelo's Last Judgment; Beyond Florence: Artistic Centers in the 15th Century; Palladio and His Legacy; and Titian, Tintoretto, and Veronese. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

ARTH 8740. Problems in Baroque Art II. 3 Credit Hours.
Recent and planned topics include The Baroque Altarpiece; The Invention and Evolution of the Early Modern Hero; Baroque Sepulchral Art; Women as Patrons in the Early Modern Period; Historiography of the Baroque; Art and the Spectator; and Illusionism and the Visionary in Italy and Spain. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

ARTH 8750. Problems in 19th-Century Art II. 3 Credit Hours.
Recent and planned topics include Courbet and Manet; Cezanne; and Delacroix. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

ARTH 8760. Problems in 20th-Century Art II. 3 Credit Hours.
Recent and planned topics include Modern and Postmodern Portraiture, Abstract Expressionism, Art of the 1960s, Art of the 1980s, Censorship, and The 20th Century Metropolis. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

ARTH 8810. Problems in Ancient Art III. 3 Credit Hours.
Recent topics have included Art in the Age of Augustus; Severan Art; and Ancient Counterfeits, Looting, and the Ethics of Collecting. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.
ARTH 8820. Problems in Medieval Art III. 3 Credit Hours.
Courses taught recently or planned include The Iconography of Later Medieval Art; Theory & Practice; The Medieval Portal; Carolingian Art; The Icon; The Spaces of the Medieval Church and Their Decoration: Cloister, Choir, and Chapel; and Late Antique and Byzantine Aesthetics. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

ARTH 8830. Problems in Renaissance Art III. 3 Credit Hours.
Recent or planned topics include Michelangelo and His Times; After Raphael: Painting in Central Italy; Michelangelo's Last Judgment; Beyond Florence: Artistic Centers in the 15th Century; Palladio and His Legacy; and Titian, Tintoretto, and Veronese. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

ARTH 8840. Problems in Baroque Art III. 3 Credit Hours.
Recent and planned topics include The Baroque Altarpiece; The Invention and Evolution of the Early Modern Hero; Baroque Sepulchral Art; Women as Patrons in the Early Modern Period; Historiography of the Baroque; Art and the Spectator; and Illusionism and the Visionary in Italy and Spain. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

ARTH 8850. Problems in 19th-Century Art III. 3 Credit Hours.
Recent and planned topics include Courbet and Manet; Cezanne; and Delacroix. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

ARTH 8860. Problems in 20th-Century Art III. 3 Credit Hours.
Recent and planned topics include Modern and Postmodern Portraiture, Abstract Expressionism, Art of the 1960s, Art of the 1980s, Censorship, and The 20th Century Metropolis. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

ARTH 9183. Archaeological Program. 3 Credit Hours.
Seminar study in Ancient Art and Archaeology as directed by advisor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ARTH 9585. Internship Seminar. 3 to 6 Credit Hours.
For students in the fine arts administration track. Placement in a local museum or gallery (e.g., Temple University Gallery in Center City, Philadelphia) or other appropriate institutions. To be arranged with the graduate director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
ARTH 9586. Internship Seminar. 3 to 6 Credit Hours.
For students in the fine arts administration track. Placement in a local museum or gallery (e.g., Temple University Gallery in Center City, Philadelphia) or other appropriate institutions. To be arranged with the graduate director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ARTH 9891. Directed Research. 1 to 3 Credit Hour.
Faculty-directed research on a specific topic. To be arranged with faculty sponsor and graduate director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ARTH 9991. Directed Research. 1 to 3 Credit Hour.
Faculty-directed research on a specific topic. Directed Research while still in the coursework phase of the program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ARTH 9993. Comps Study. 1 to 3 Credit Hour.
Preparation for comprehensive examinations. Masters students only.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ARTH 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
Preparation for preliminary examinations. Doctoral students only.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Philosophy.

College Restriction: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

ARTH 9996. Thesis Research. 1 to 3 Credit Hour.
Research and writing of the master's thesis. Masters students only.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ARTH 9998. Pre-Dissertation Research. 1 to 6 Credit Hour.
Research of dissertation proposal. Doctoral students only.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ARTH 9999. Dissertation Research. 1 to 6 Credit Hour.
Restricted to Doctoral students elevated to candidacy writing the dissertation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.

Basic Core Medical Science (BCMS)

Courses

BCMS 5003. Fundamentals of Biochemistry. 4 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
Bioengineering (BIOE)

Courses

BIOE 5301. Biosignals. 3 Credit Hours.
This course offers a deep overview of the signals in the Biomedical fields. Signals are studied in several modalities, including time frame, frequency frame, and statistical frame. A deep analysis of filters and analysis tools is included together with some basic techniques of storing and pattern interpretation techniques. Furthermore, the course gives to the student the necessary knowledge to realize a complete Data Acquisition, Analysis and Logging using LabView as a tool. The laboratory activities include the development of a complete system to do acquisition, analysis, report and logging of data incoming from sensors.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOE 5311. The Entrepreneurial Bioengineer. 3 Credit Hours.
This course provides a practical overview of all stages of development of medical devices in regenerative medicine, from idea to launch of a company and commercialization of the product into international markets to address unmet medical needs. We will review the initial idea, based on an unmet medical need, review issues of intellectual property creation, determination of target markets, pre-clinical and clinical development, and different regulatory pathways leading to product approval and market introduction. We will discuss issues of company formation, financing and management, as well as target markets and avenues towards revenue generation. Note: Prior to fall 2017, the course title was "Entrepreneurial Studies in Regenerative Medicine - From Idea to Medical Practice".

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOE 5321. Biosensors. 3 Credit Hours.
This course offers an in-depth overview of several sensors used in the Biomedical Fields. The sensors are analyzed from an engineering point of view going from the physical principles to the necessary filtering and linearization studying the characteristics of output signals. The course also gives the student the necessary basis for Data Acquisition using LabView as a tool. The laboratory activities include the connection of sensors, the study of amplification, linearization and interpretation of data.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOE 5333. Applied Biospectroscopy. 3 Credit Hours.
This course introduces the basics of light propagation in tissue and other turbid media, vibrational spectroscopy, absorption and fluorescence, and emerging spectroscopic applications. Emphasis is on applications for assessment of biomolecules, engineered tissues and clinically-relevant analyses including musculoskeletal disease and cancer diagnosis. Multivariate analyses for complex spectral data sets will also be introduced.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOE 5421. Capstone Elective: Bionanotechnology. 3 Credit Hours.
This course is intended for graduate students interested in acquiring knowledge involving nanometer-sized objects frequently utilized within the biomedical sciences and engineering areas. The aim of the class is to introduce fundamental concepts critical in the design, preparation, analysis, and usage of bionanotechnology (or nanobiotechnology) and its multiple bottom-up and top-down approaches. Multiple nanomaterials categories, such as nanoparticles, nanotubes, biomacromolecules, synthetic polymers, and self-assembled structures, will be covered in detail along with their applications.

Department Restrictions: Must be enrolled in one of the following Departments: Engineering:Bio Engineering.
Field of Study Restrictions: Must be enrolled in one of the following Majors: Bioengineering.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
BIOE 5431. Neuroengineering. 3 Credit Hours.
This course will teach students how signals are generated and propagated in neurons and neuronal circuits, and how this knowledge can be utilized to engineer devices to assist people with neurologic disease or injury. The functions of neurons as discrete elements and as parts of neuronal assemblies will be examined; generator and action potentials; conduction in nerve fibers and across synaptic junctions; analysis of sensory and neuromuscular systems; EEG and EKG waveforms. At the completion of the course, students will have gained a fundamental understanding of neural interface/prosthetics design parameters from basic neural physiology to models of neural mechanisms. We will also review advanced neural interfaces currently being developed. The course will end with coverage of selected frontiers of neuroscience, including neurogenetic techniques, viral methods, and optogenetics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

BIOE 5441. Biomechanics. 3 Credit Hours.
This course will provide an integrative and multi-scale understanding of biomechanics that spans from tissues, to organs, to the dynamics of an intact, running body. Foundational topics will include muscle mechanics, skeletal mechanics, gait and whole body dynamics. The course will then move on to cover selected topics at the forefront of applied biomechanics including clinical biomechanics and the design and optimization of prosthetic limbs. Finally, frontiers in neural-interfacing for prostheses and rehabilitation, including optogenetics and other emerging areas affecting biomechanics, including robotics and robotic exoskeletons, will be covered.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Engineering.
Repeatability: This course may not be repeated for additional credits.

BIOE 5451. Biomedical Imaging. 3 Credit Hours.
This course focuses on principles of diagnostic radiological imaging physics, including X-ray, computed tomography, and nuclear medicine, as well as optical imaging, ultrasound and magnetic resonance imaging modalities. The interaction of these modalities with tissues and detectors to produce useful image contrast will be presented, and students will gain an understanding of the basic physics of image acquisition and algorithms for image generation. Signal and noise characteristics, image quality and image reconstruction algorithms will also be covered. Image processing through MATLAB programming will be covered in class and in assignments.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

BIOE 5461. Principles of Tissue Engineering. 3 Credit Hours.
This course will introduce fundamental concepts of tissue engineering and regenerative medicine, focusing biomaterials used for scaffolds, mechanisms of cell-biomaterial interactions, biocompatibility and foreign body response, cellular engineering, and tissue biomechanics. Principles of cell/developmental and stem cell biology will be introduced, which will enable the students to apply a multidisciplinary approach to engineering select tissues and organs, such as the musculoskeletal system, cardiovascular tissues, the nervous system, and to design artificial organs. These topics will also be discussed in the context of scale-up, manufacturing, ethical and regulatory concerns. Note: Prior to fall 2017, the course title was "Principles of Tissue and Regenerative Engineering."

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

BIOE 5500. Special Topics in Bioengineering. 3 Credit Hours.
An emerging or advanced area of bioengineering research will be covered. Topics vary by semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.
BIOE 5501. Regenerative Engineering. 3 Credit Hours.
This course is a continuation of fundamental concepts introduced in Principles of Tissue and Regenerative Engineering focusing on developmental biology used in tissue engineering and regenerative medicine. Principles of cell development/biology, cell-cell interactions, signal transduction, and stem cell biology will be discussed with applications to regenerative medicine. These topics will also be discussed in the context of scale-up, manufacturing, ethical and regulatory concerns.

Department Restrictions: Must be enrolled in one of the following Departments: Engineering: Bio Engineering.
Field of Study Restrictions: Must be enrolled in one of the following Majors: Bioengineering.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(BIOE 5461 | Minimum Grade of B- | May not be taken concurrently)
AND (BIOE 5721 | Minimum Grade of B- | May not be taken concurrently)

BIOE 5555. Biophotonics: Seeing is Believing. 3 Credit Hours.
Only a small portion of the world around us is visible to the human eye. So, is there a way to visualize chaos, force, fractals, viral infection or cancer metastasis? Once we see biology happen, is the result a pretty image or a valuable measurement? Can the light be used to modify biological processes? In this course students will learn how photons are used to visualize and manipulate biomaterials at multiple scales. The first part of the course will provide a review of electromagnetism, light and optics. We will cover typical hardware used for imaging in biology, such as light sources, objectives and detectors used to generate images. Next, chemistry of imaging probes will be covered, including photochemistry and interaction of light and matter. The rest of the course will give a comprehensive overview of methodologies for multiscale imaging in life sciences, ranging from electron to atomic-molecular-cell-multicellular tissue-whole body scales, in vitro and in vivo. This will include among others Spectroscopy, Microscopy (Electron, Atomic, Fluorescent), Flow Cytometry, Optical Traps, Bioluminescence, X-Ray, MRI. Final classes will include special demonstrations in the imaging labs in the Temple Main Campus.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Bioengineering.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOE 5600. Bioengineering Graduate Seminar. 0 Credit Hours.
Required seminar for bioengineering graduate students. These seminars include speakers from academic and professional backgrounds for both scientific development and professional development. Students will be graded on participation of at least 70% of the bi-weekly seminars throughout the duration of the semester.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Bioengineering.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BIOE 5719. Introduction to Bioengineering. 3 Credit Hours.
This course offers an introduction to biomedical engineering, a diverse and evolving field that integrates engineering principles, life sciences, clinical medicine, research and engineering design, with the overall goal of improving health care and quality of life. Professors with expertise in specific fields of biomedical engineering will present lectures and discussions on a broad range of topics, including tissue engineering and regenerative medicine, biomaterials, biomechanics, bioinstrumentation, biomedical imaging and optics, and signal processing.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOE 5721. Cell Biology for Engineers. 3 Credit Hours.
This course introduces biological concepts in modern cellular and molecular biology to engineering students. Topics will include the chemical composition of cells, bioenergetics and metabolism, structure and function of the plasma membrane, transport across membranes, the cytoplasmic membrane system, the extracellular matrix, interactions between cells and their environment, the cytoskeleton and cell motility, sensory systems, and cell signaling. In addition, an introduction to basic anatomy and physiology of vertebrates will include the skeletal system, muscle system, cardiovascular system, and nervous system.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
BIOE 5737. Systems Physiology for Engineers. 3 Credit Hours.
Systems Physiology is designed for graduate students majoring in engineering and for others interested in studying physiological processes from the molecular level to the organ/systems level. Among the topics covered are: scaling, respiration, circulation, cardiac process, renal function, muscle function, neuromuscular junction, neural processes, and temperature regulation. The course stresses the application of energetic and informational principles to the study of the body.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOE 5741. Biomaterials for Engineers. 3 Credit Hours.
This course introduces engineering students to materials as they interact with biological systems, primarily in medicine. Topics will include a review of properties of materials, the classes of materials, tissues that come into contact with materials, the degradation of materials in the biological environment, the application of materials for specific uses, tissue engineering, and biomaterials standards and regulations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOE 5999. Research Experience in Bioengineering. 0 Credit Hours.
Research Experience provides graduate students laboratory experiences/research practices prior to undertaking independent, directed, master project, master’s thesis, or dissertation research. This course allows graduate students the opportunity to learn to use laboratory equipment, designing and carrying out an experiment(s), collecting preliminary data, field experiences, and participation in laboratory meeting, etc. with faculty which may lead to identifying a faculty mentor. The course will be graded as Pass or Fail. The Research Experience is a non-repeatable course. After the completion of this Research Experience course, students will need to be enrolled in independent study, directed research, master’s research, master’s thesis, dissertation proposal, or dissertation if they continue in an active research program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOE 9182. Independent Study. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BIOE 9282. Independent Study II. 3 Credit Hours.
Special study in a particular aspect of engineering under the direct supervision of a graduate faculty member. May be taken once by Ph.D. students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BIOE 9991. Directed Research. 1 to 3 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BIOE 9994. BioEngineering Preliminary Examination Preparation. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BIOE 9995. BioEngineering Project Research. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BIOE 9996. BioEngineering Thesis Research. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BIOE 9998. Bioengineering Pre-Dissertation Research. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
BIOE 9999. BioEngineering Dissertation Research. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

Biology (BIOL)

Courses

BIOL 5101. Evolution. 3 Credit Hours.
A lecture and discussion course for upper-level science majors and graduate students. Topics covered include Darwinism and neo-Darwinian theory, including adaptation, natural selection, sexual selection, and speciation.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

BIOL 5111. Genomics in Medicine. 3 Credit Hours.
The completion of the Human Genome Project in 2003 began a revolution in the treatment of human disease. More than 10 years later, the promise of personalized genome-guided medical treatment is becoming reality. This course will explore how genomic information has enhanced our understanding of human genetic variation and disease susceptibility. Students will develop familiarity with main areas in genomic medicine through lectures from intra- and extramural experts, and they will be involved in classroom discussions. Students at the graduate level will complete an independent project focused on a particular disease topic, integrating literature review with new analyses of published data.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

BIOL 5112. Fundamentals of Genomic Evolutionary Medicine. 3 Credit Hours.
Modern evolutionary theory offers a conceptual framework for understanding human health and disease. In this course we will examine human disease in evolutionary contexts with a focus on modern techniques and genome-scale datasets. We ask: What can evolution teach us about human populations? How can we understand disease from molecular evolutionary perspectives? What are the relative roles of negative and positive selection in disease? How do we apply evolutionary principles in diagnosing diseases and developing better treatments? Students will conduct case studies of a variety of diseases and phenotypes in a group setting. Students at the graduate level will complete an independent research project and assume leadership roles in group presentations.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Engineering, College of Public Health, Medicine, Lewis Katz School, Science & Technology.
Repeatability: This course may not be repeated for additional credits.

BIOL 5114. Evolutionary Ecology. 3 Credit Hours.
In this course we will explore the interface of ecology and evolution. The field of evolutionary ecology deals broadly with questions such as: What are the ecological causes of evolution? How do ecological interactions shape the evolution of traits and origination (or extinction) of species? How does evolutionary history shape species interactions and community structure? How might evolution influence community or ecosystem processes? The class will cover fundamental theories and approaches used to address questions in evolutionary ecology, including molecular tools, modeling, manipulative field studies, and laboratory- or field-based common garden studies. Students will be engaged through a combination of lectures, inquiry-based activities, and small group discussions.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
**BIOL 5128. Genomics and Infectious Disease Dynamics. 3 Credit Hours.**

Events such as the emergence of avian flu have increased public awareness about the need for incorporating ecology and evolution in decision-making processes that involve infectious diseases. It is evident for the public health community that molecular information, together with concepts from ecology and evolutionary biology, allows for testing of hypotheses and exploration of scenarios that otherwise could not be investigated by traditional epidemiological approaches. Understanding the ecological and evolutionary dynamics of infectious diseases requires the integration of information across organizational levels at various temporal and/or spatial scales. This requirement, together with novel molecular evolution, genomics, and mathematical modeling approaches, has positioned research on Genomics and Infectious Diseases Dynamics at the forefront of Public Health Genomics. The goal of this class is to discuss some of the biological processes leading to the emergence and re-emergence of infectious diseases stressing on evolutionary concepts within an epidemiological context. Basic concepts will be provided by the instructor as part of formal lectures. Our general objective (integrating evolutionary biology into epidemiology) will be fulfilled by discussing research articles. Such discussions will take place during the second half of the semester. “Emerging” perspectives such as One Health and Public Health Genomics will be integrated into the lectures and discussions.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**BIOL 5225. Evolutionary Genetics Genomics. 3 Credit Hours.**

This class covers fundamental principles of population and comparative genetics with special attention given to recent advances in genomics. The scope of the class ranges from understanding variation at the population level to addressing species-level questions. Topics covered include classical population genetics, quantitative genetics, comparative genomics, phylogenomics and speciation. Lectures, assignments and discussions will explore theoretical and recent empirical advances.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**BIOL 5226. Innovative Biomodels and Concepts. 3 Credit Hours.**

The aim of this course is to familiarize students with current concepts, models, and cutting-edge technologies applicable in different bioindustries. The scope of topics ranges from the implementation of discoveries stemming from molecular genetics, cell biology and nanotechnology in different industries to integration of omics techniques in personalized medicine, drug discovery and pharmacovigilance. Note: Non-STEM graduates will be required to enroll as non-matriculated in at least two Biology Foundation courses recommended by the PSM in Bioinnovation Steering Committee.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**BIOL 5227. Biomarkers and Biotargets: Research and Commercialization. 3 Credit Hours.**

This course focuses on the evolution of biomarker and biotarget research, with emphasis on biomarker validation and biotarget druggability. The students will analyze real-life examples of biomarkers and biotargets in medicine, drug development, and environmental science. The formation of therapeutic target databases and development of multi-target agents will be critically evaluated. Note: Non-STEM graduates will be required to enroll as non-matriculated in at least two Biology Foundation courses recommended by the PSM in Bioinnovation Steering Committee.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**BIOL 5228. Epigenetics, Genetics: Applications in Drug Design and Drug Response. 3 Credit Hours.**

This course focuses on applications of current epigenetics knowledge in health industries. Special emphasis is on epigenetic and genetic testing in clinical settings, epigenetic and genetic determinants of drug response as well as drug- and environment-induced modulation of epigenetic status. Note: Non-STEM graduates will be required to enroll as non-matriculated in at least two Biology Foundation courses recommended by the PSM in Bioinnovation Steering Committee.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.
Course Descriptions

BIOL 5229. Systems Biology: Principles and Applications. 3 Credit Hours.
This course provides an overview of Systems Biology technologies and the scientific challenges in applicability of system biology paradigms in the analysis of biological processes. Topics covered include the use of genome-scale in silico models and dissecting transcriptional control networks. By successfully completing this course, the students will obtain background on theoretical and modeling techniques, and software platforms for Systems Biology. Note: Non-STEM graduates will be required to enroll as non-matriculated in at least two Biology Foundation courses recommended by the PSM in Bioinnovation Steering Committee.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5232. Behavioral Genetics. 3 Credit Hours.
This course is an introduction to the interdisciplinary field - behavioral genetics - that combines behavioral sciences and genetics and unifies the long-standing debate on what underlies complex human behavior: "nurture" or "nature." This course will discuss the genetic approaches used to dissect out the genetic determinant of complex human traits. For example, students will learn about genes that influence learning and memory, intelligence (IQ), cognitive disabilities, personality disorders, psychopathology, antisocial behavior, substance abuse, and sexual orientation. In addition, the interplay of environment and genetic factors that create individual differences in behavior will be explored. Because this field represents the intersection between what is known and what might be known in the future about complex and potentially controversial behaviors and characteristics, students will be encouraged to discuss contemporary ethical issues regarding human behavior in realm of the scientific evidence presented.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5233. Effective Dissemination of Bio-discoveries through Traditional and New Media. 1.5 Credit Hour.
The students will learn contemporary methods of effective dissemination of research findings and concepts to professional and lay audiences. Current real-life findings will be presented through slide and video development, press releases, and the use of social media. In addition, the students will learn the ways to communicate scientific data through abstracts, posters, and papers and will critically analyze the content and style of selected scientific material. Furthermore, different types of funding proposals will be reviewed and grant development will be practiced.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5234. Bioinnovation Seminar. 1.5 Credit Hour.
This course includes lectures and seminars on current topics in bioinnovation presented by experts in different disciplines and it will include seminars at the Fox School of Business and Management. By successfully completing this course, the students will obtain up-to-date knowledge of bioinnovative models.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5235. Milestones in Clinical Translation of Biodiscoveries. 1.5 Credit Hour.
The goal of this course is to familiarize the students with clinical trial design and principles of pharmacovigilance. Topics will include clinical trial phases and examples of clinical trial design for selected biologic drugs. Case studies of drug safety-driven FDA decisions will also be evaluated. The comparison between regulatory requirements of the U.S. and international agencies will be discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5236. Bioadvanced Screening in Health Disparity. 1.5 Credit Hour.
This course focuses on the effects of nutrients, bioactive food components and environment on public health, medical treatments and applications for improving human health.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
BIOL 5237. Virtual Reality in Bioindustry and Medicine. 1.5 Credit Hour. 
The goal of this course is to provide the students with a background on Virtual Reality and its applications in medicine, laboratory research, training and education in bioindustry.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5239. Dissemination of Biodiscoveries and Virtual Reality in Medicine. 3 Credit Hours. 
The students will learn contemporary methods of effective dissemination of research findings and concepts to professional and lay audiences. Current real-life findings will be presented through slide and video development, press releases, and the use of social media. Furthermore, this course will provide the students with a background on Virtual Reality and its applications in medicine, laboratory research, training and education in bioindustry.

Level Registration Restrictions: May not be enrolled in one of the following Levels: Undergraduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5241. Genomics and Evolutionary Biology of Parasites and Other Dependent Species. 3 Credit Hours. 
All known multicellular organisms harbor diverse assemblages of dependent species, many of which are considered parasites or pathogens. Yet, in spite of a growing awareness of the importance of dependent species in biodiversity and medicine, many studies are limited to assessing the consequences to their hosts. The goal of this seminar is to discuss some of the biological processes leading to the diversity of dependent species and their functional/evolutionary relationships with their hosts. This general objective will be fulfilled by discussing research articles on the genomics and evolution of dependent species, many of them considered parasites or pathogens. Students are also expected to gain proficiency in writing scientific review papers.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5254. Animal Behavior. 3 Credit Hours. 
This course will examine how animals behave, and investigate the proximate (neurological and developmental) and ultimate (functional and evolutionary) explanations for these behaviors. The ecological and evolutionary processes that shape animal behavior will be examined through the study of classic theories and major principles of animal behavior, including a weighing of the experimental and observational evidence for each idea. Concepts will be illustrated with examples from a wide range of taxonomic groups of animals in diverse ecosystems, and emerging theories in animal behavior will be discussed. We will conclude with applications of animal behavior for conservation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5275. Ecology of Invasive Species. 3 Credit Hours. 
Species that are transported by humans from their native range and successfully establish and spread in a new environment are called invasive species. Invasive species can cause significant ecological and economic impacts and are a growing threat to native species and ecosystems across the globe. Recognition of this problem has led to a recent surge in research on invasive species and a better understanding of the ecology of invasions and approaches for improved prevention and control. Yet many challenges still hinder scientific and applied advancements in this emerging field. In this course we will investigate these challenges and the science of invasive species using interactive activities and student-driven projects.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5301. Cell Biology. 3 Credit Hours. 
Advanced knowledge in cell biology will be discussed. Topics include macromolecules, cell structure, cell motility, bio-membrane, endo- and exocytosis, nucleocytoplasmic transport, visualizing cells and macromolecules with advanced microscopy imaging. Current journal articles reporting recent developments in modern cell biology will be also covered.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
BIOL 5307. Conservation Biology. 3 Credit Hours.
The Earth harbors an incredible diversity of species and communities, most still poorly understood by science. This biodiversity is essential to the functioning of natural ecosystems and provides a wide array of priceless services to people today and a treasure of benefits for the future. Yet human threats to biodiversity have led us to the brink of the sixth major extinction event in Earth's history. Which populations, species, communities, and ecoregions are most diverse? Which are most threatened, and by which human activities? What is the contribution of biodiversity to human livelihoods? What does the science suggest is needed to conserve biodiversity? How might this best be done given social, economic, and political realities? These questions and more will be examined in this course, focusing on the key principles of conservation biology and the application of those principles to local, national, and international examples.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5311. Herpetology. 4 Credit Hours.
Herpetology Reptiles and amphibians comprise nearly 7,400 species and can be found on every major and minor landmass in the world except Antarctica. This course will provide a broad, evolutionary survey of the major groups of reptiles and amphibians ("herps"). We will cover topics about their basic biology, including anatomy, physiology, ecology, behavior, and conservation. The laboratory will emphasize taxonomic characters and identification of living and preserved specimens, with emphasis on species found in North America. Additionally several field trips (conducted during lab hours and spring break) will reinforce course material through hands-on experience.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5312. Biostatistics. 3 Credit Hours.
Biostatistics is an important part of the research activities related to biological and medical issues. Statistics is used to analyze phenomena with random properties and is often essential to draw the right conclusions based on a data set. The course will be designed to cover different statistical methods for data analysis mainly applied to medical and biological problems. Advanced undergraduate and graduate students with interests in medicine and biomedical research will benefit most from the course. However statistical methods that can be applied to behavioral science and ecology will also be covered.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5321. Plant Community Ecology. 3 Credit Hours.
This class focuses on fundamental principles in community ecology as they relate to plant systems. The scope of the class ranges from plant-environment interactions and species interactions, to the relationship among communities at larger spatial scales. Lectures and small group discussions will also highlight theoretical and empirical advances made in ecology through classic and contemporary studies of plant communities.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5322. Biology of Plants. 3 Credit Hours.
This course examines current knowledge of higher plants, with an emphasis on Arabidopsis and maize. Topics include plant reproduction, self-incompatibility, polyploidy in plants, sex chromosomes in plants, chloroplast structure and function, light and dark reaction of photosynthesis, nitrogen fixation, phytochromes, DNA and histone methylation and epigenetics, embryonic pattern formation in plants, chemical signaling in plants, leaf morphogenesis, flower development, and stem cell populations in plants.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5325. Research Techniques in Molecular Biology. 3 Credit Hours.
Instruction in the techniques used in modern molecular biology and molecular genetics. This course takes a problem-oriented approach toward teaching the methods of DNA and RNA analysis that are used in determining the structure and function of genes. Practical experience in the preparation of DNA, modern cloning methods, restriction enzyme mapping, hybridization analysis, DNA sequencing, and PCR techniques will be provided. Students will carry out a research project during the course. NOTE: Biology 3324 is highly recommended, but not required. Also note: Prior to Spring 2017, the course title was "Recombinant DNA Techniques."

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
BIOL 5335. Polar Biology - Life at the Extremes. 3 Credit Hours.
“Polar Biology - Life at the Extremes” is an introduction to polar environments and the biology of aquatic and terrestrial organisms adapted to live in the Arctic and Antarctic. Similarities and differences between the poles as well as anthropogenic impacts on these remote environments will be addressed. Comparisons to other extreme environments will be included.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

BIOL 5337. Comparative Biomechanics. 3 Credit Hours.
An overview of biomechanics with emphasis on locomotion. Students gain a working knowledge of the breadth of biomechanical study ranging across organismal and environmental scales.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

BIOL 5338. Epigenetics. 3 Credit Hours.
The term "epigenetics" describes a heritable effect on chromosome or gene function that is not accompanied by a change in DNA sequence. Recent findings suggest an important role of epigenetics in both normal development and cancer. This course provides an overview of the field and examines selected phenomena in several eukaryotes, mechanisms regulating these effects, and their phenotypic consequences when normal regulation is lost. Topics include gene regulation through chromatin modification (acetylation, methylation), genomic imprinting, mechanisms of silencing (including small interfering RNAs), and the role of epigenetics in human diseases and cancer.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

BIOL 5358. Cellular/Molecular Neuroscience. 3 Credit Hours.
The course will focus on the molecular and cellular basis of neurological processing. The fundamentals of action potential generation, synaptic and receptor potentials generation and neuron-neuron communication will be discussed. The contemporary understanding of sensory processing will be covered in great detail with a particular focus on molecular sensors of light, sound, odorants, taste and touch and the signal transduction pathways that underlie the five senses.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

BIOL 5366. Stem Cell Biology. 3 Credit Hours.
The purpose of this course is two-fold. The first is to present the developmental biology of stem cells, with an overview of the various types of stem cells that exist and an emphasis on embryonic stem cells. The overview will include the important functional differences between embryonic, hematopoietic, and adult stem cells as well as the differences in their biomedical potentials. Techniques such as somatic cell nuclear transfer (SCNT) and other methods for the derivation of stem cell lines will be outlined so that differences that may seem subtle at first glance are clarified. The second purpose is to look into the larger debate on human embryonic stem cell research while continually drawing connections to the established fields of bioethics, politics, and philosophy. The course will ground the issues by looking at the history of the debate over the embryo, with careful attention paid to the language used in arguments. An exploration of important social, ethical, political, and economic issues and how they arose with respect to the stem cell debate will round out the remainder of the course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

BIOL 5403. Genomics. 3 Credit Hours.
Genomics is the study of the mechanisms of gene inheritance and gene expression as they are manifested across the entire genome. Students will learn about genome-related technologies, including genome sequencing and mapping. They will also learn about genome structure and how genomes vary across species, as well as the forces driving these evolutionary changes. Students will also learn how to carry out genome-level data analyses. NOTE: Prior to fall 2015, this course was titled "Genomics and Proteomics."

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
BIOL 5411. Structural Bioinformatics I. 3 Credit Hours.
This course will cover the basic concepts of protein structure analysis, with focus on database searching and molecular modeling techniques. A broad qualitative overview of macromolecular structure and protein folding will be provided before addressing the issues of sequence alignment, secondary structure calculation, and tertiary structure prediction. The course will also cover few selected advanced topics such as prediction of quaternary structure, Hidden Markov Models, and other approaches for building probabilistic models of sequence ensembles. Computer-based activities will allow students to develop a strong familiarity with molecular visualization software and web-based tools.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5416. Tropical Marine Biology: Belize. 4 Credit Hours.
An introduction to the largest coral barrier reef in the Atlantic Ocean. Course lectures begin at Temple (approximately Dec 29-Jan 31; holidays excluded) followed by a week of lectures, field trips and field or laboratory projects in Belize. Lectures include coral biology, reef geology and ecology, coral reef microbiota, food chains and nutrient transfer in coral reefs, reef community organization, the biology of reef fishes, commensal and symbiotic interactions of reef organisms, and other appropriate topics. Group student team projects and lectures are required. Note: Additional requirements include cost of air travel to a foreign country between fall and spring semesters, a current passport, and snorkeling equipment.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5427. Immunology. 3 Credit Hours.
The purpose of the Immunology course is to provide a comprehensive overview of the immune system that in its normal function protects each of us from the harmful effects of microbial invaders. The lectures will describe the general properties and development of immunity, the condition of being protected from infection by microorganisms or the effects of foreign molecules. They will provide systemic coverage of immune responses to viruses, bacteria, protozoa and roundworms as well as the practical aspects of vaccine development. Additional lectures will include a description of various types of primary immunodeficiencies, most prevalent autoimmune disease and cancer.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5428. Virology. 3 Credit Hours.
The role of viruses in human diseases, and their potential as tools for research and clinical interventions. The course will focus on virus-induced diseases in man including polio, rabies, hepatitis, herpes, and influenza; recently discovered viruses such as HIV and HTLV-1 will also be studied. Virus-host interactions and the mechanisms involved in disease progression, therapeutic strategies, and vaccines, strategies for viral entry, evasion of the immune system, transmission, and the subversion of host-cell machinery will be emphasized. Potential uses of viruses as vector for gene therapy of genetic disorders, cancers, and infectious diseases will also be discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5429. Developmental Genetics. 3 Credit Hours.
The role of genes in the determination and differentiation of eukaryotes. Emphasis on the regulation of gene function and on the genetic and molecular interactions which control the processes of development.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5433. Advanced Techniques in Microscopy. 3 Credit Hours.
This course will provide a survey of modern techniques in microscopy. Students will acquire a thorough grounding in general principles of optics and conventional microscopy, and learn the theory of many methods current in biology and medicine, fluorescence, confocal microscopy, video microscopy, and digital image processing and analysis. Note: This course includes extensive laboratory experience.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
BIOL 5436. Freshwater Ecology. 4 Credit Hours.
The interrelationships between biological, chemical, and physical factors in freshwater environments. Lectures and laboratories address general ecological principles (population dynamics, community structure, energy flow, and nutrient cycling) as they apply to plants and animals in lakes, ponds, streams and wetlands. Note: Students are required to participate in up to two field trips, one of which includes weekend travel.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5452. Systems Neuroscience. 3 Credit Hours.
A comparative survey of vertebrate and invertebrate nervous systems intended to acquaint the student with their structure, function and development at several levels of complexity.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5454. Neurological Basis of Animal Behavior. 3 Credit Hours.
An exploration of the relationship of neural activity and connectivity to behavior. Topics include motor control, object recognition and learning. Examples from both vertebrate and invertebrate species. Analytic and synthetic approaches.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5456. Organization and Development of the Nervous System. 3 Credit Hours.
This course covers developmental, anatomical and integrative aspects of the nervous system. The relationship of form to function will be studied in a variety of systems both invertebrate and vertebrate. The course is intended to complement Neurobiology 352/452 so that students will have a perspective on neuroscience ranging from the molecular to the systems level.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5464. Biochemistry of Embryogenesis. 3 Credit Hours.
This course will compare and contrast key biochemical mechanisms of embryonic development in a variety of model organisms ranging from humans to plants. We will examine the roles of enzymes, peptides, small RNA molecules and chromatin structure during embryogenesis. Topics will include micro RNAs, modification of DNA structure, and effects of mutation on enzyme activity. These basic principles will then be applied to subjects such as cell communication, stem cells, and cloning. Course material will be drawn from the experimental literature.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5465. Mammalian Development. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5466. Contemporary Biology. 3 Credit Hours.
This course is typically offered in Fall and Spring. Advanced discussion of selected topics.

This course is repeatable for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BIOL 5467. Endocrinology. 3 Credit Hours.
Broad coverage of "chemical messengers", occurrence, biochemistry, and physiology. Vertebrate endocrinology with minor treatment of invertebrates and plants.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
BIOL 5469. Molecular Biology. 3 Credit Hours.
A background knowledge of biochemistry and basic genetics at the undergraduate level is desirable. Structure, function and interaction of proteins and nucleic acids; building macromolecular complexes; techniques in molecular biology; introduction to molecular genetics and genomics; DNA replication and repair; transcription at the level of both genes and genomes; role of chromatin in gene regulation; non-coding RNAs; RNA processing; RNA interference; protein synthesis and its regulation; introduction to proteomics; transposons; regulatory proteins in eukaryotes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5471. Cell Proliferation. 3 Credit Hours.
Discussion of cell proliferation and its control; assay systems, comparisons of proliferating cells with nonproliferating cells, controls of cell division and how that control is modified in proliferative diseases such as cancer, the relationships between proliferation and differentiation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5474. Physical Biochemistry. 3 Credit Hours.
The course covers those aspects of computer simulation of molecular dynamics, quantum mechanics, and statistical mechanics of use to biochemist and biologist interested in molecular modeling. The course is intended to be computer intensive.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5475. General Biochemistry I. 3 Credit Hours.
Properties of water (pH and buffers); metabolism of carbohydrates, amino acids, fatty acids, and phospholipids properties of biomacromolecules proteins, and nucleic acids; DNA structure and replication; protein synthesis; energy generation; catalysis and control of enzymatic activity and interrelationships among the metabolic pathways.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5476. General Biochemistry II. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5479. Biotechnology. 3 Credit Hours.
This course is designed to survey current issues in technologies including therapeutics and diagnostics, and to examine consequences of developments in this area. The course is designed in a Problem Based Learning format, where students research critical areas and provide oral and written reports for other members in the class. The course is organized by topics including Concepts in Genetics, Cloning and Ethics, Gene Therapy, Prenatal Diagnosis, Gene Therapy for Cancer, Cell Replacement Therapy, Genomics and Proteomics, Vaccines, Forensics, Plant Biotechnology, and Instrumentation. At the end of the course, each student makes a formal presentation on a specific advance in biotechnology.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5501. Analytical Biotechnology. 1.5 Credit Hours.
This course provides a comprehensive survey of current techniques of biomolecule measurement and analysis using biochemical testing as the basis of measurement in a biotechnology laboratory. The detection, purification, and characterization of biomolecules (proteins, nucleic acids, carbohydrates, and lipids) are major goals in biotechnological research and development. Specific biomolecules serve as markers for the accurate and sensitive diagnosis of disease, and afford drug targets for disease treatment. Biomolecules also can be indicators of harmful (or beneficial) environmental agents and conditions. New, highly sensitive and accurate analytical methods are now available for the detection of diverse biomolecules. Note: Biochemistry Majors who have completed CHEM 4375 or CHEM 4404 with a minimum grade of C may register for BIOL 5501 with permission from instructor.

Level Registration Restrictions: May not be enrolled in one of the following Levels: Undergraduate.

Repeatability: This course may not be repeated for additional credits.
BIOL 5502. Microbial Biotechnology. 3 Credit Hours.
Course covers use of microorganisms in biotechnology. Includes recombinant DNA methodology and application of these approaches to production of medicines and for environmental remediation. Synthetic biology and metabolic engineering will also be covered (theory and concepts).

Level Registration Restrictions: May not be enrolled in one of the following Levels: Undergraduate.
College Restrictions: Must be enrolled in one of the following Colleges: Engineering, Medicine, Lewis Katz School, Pharmacy, Science & Technology.
Repeatability: This course may not be repeated for additional credits.

BIOL 5503. Biotechnology Laboratory I. 3 Credit Hours.
The biotechnology laboratory course is designed for students in the Professional Science Master's Program in Biotechnology. Students in the program will be recruited from Science, Technology, Engineering and Math (STEM) undergraduate majors and this hands-on course is designed with this understanding. The course will introduce students to some of the basic laboratory approaches used in the analysis of biologically-active environmental contaminants and in the synthesis of new and existing drugs. The first part of the course will emphasize molecular biological tools useful in drug design and contaminant analysis. The second part of the course will emphasize the chemical analysis of biologically-active compounds. The course will be problem-oriented with small team participation. The course will prepare students for a research project as part of the requirements for completion of the Professional Science Master's in Biotechnology.

Level Registration Restrictions: May not be enrolled in one of the following Levels: Undergraduate.
Repeatability: This course may not be repeated for additional credits.

BIOL 5504. Biotechnology Laboratory II. 3 Credit Hours.
The biotechnology laboratory course is designed for students in the Professional Science Master's Program in Biotechnology. Students in the program will be recruited from Science, Technology, Engineering and Math (STEM) undergraduate majors and this hands-on course is designed with this understanding. The first part of the course will introduce students to microorganisms relevant to human and environmental health, for example pathogenic organisms as well as antibiotic-producing organisms. The second part of the course will focus on genomic and proteomic techniques and the use of bioinformatics in drug design, bioremediation and related challenges. The course will be problem-oriented with small team participation. The course will prepare students for a research project as part of the requirements for completion of the Professional Science Master's in Biotechnology.

Level Registration Restrictions: May not be enrolled in one of the following Levels: Undergraduate.
Repeatability: This course may not be repeated for additional credits.

BIOL 5505. Ethics Regulation and Policy in Biotechnology. 3 Credit Hours.
The Bioethics, Policy and Regulation course is designed for students in the Professional Science Master's Program in Biotechnology. This course will provide an understanding of ethical decisions, governmental regulations and policies in biotechnology. A case study approach will be used to provide a framework for discussions of policy and ethical decision making. Guest speakers will provide insights from legal and governmental perspectives on emerging and current biotechnology applications.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

BIOL 5506. Professional Development Seminar for PSM in Biotechnology. 1 Credit Hour.
The PSM program prepares graduates for careers in biotechnology-related fields with a strong emphasis on skill areas that include management, policy and regulation in addition to scientific discovery. This course will provide students with career exposure through interviews with professionals in government and industry and will assist students in developing a career plan. Students will develop a white paper on the current state of Biotechnology based on new advances and challenges in the past year. Members of the advisory board will participate in facilitating the course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(BIOL 5501|Minimum Grade of B-|May not be taken concurrently)
AND (BIOL 5503|Minimum Grade of B-|May not be taken concurrently)
AND (BIOL 5505|Minimum Grade of B-|May not be taken concurrently)
BIOL 5509. Computational Genomics. 3 Credit Hours.
This is a course on the application of genome-related concepts to genome sequence data. Students will gain familiarity with both existing software and with basic programming (scripting) skills for problems in genomics. Further, students will come to understand the connections between standard computational and statistical approaches and their underpinnings in those fields increasingly dominated by genomic approaches. These include the fields of molecular evolution, population genetics, molecular genetics, molecular biology, and biochemistry. The course will be a hands-on computational lab course, with students working on problems and assignments in class using their laptop computers.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: 
BIOL 5403 | Minimum Grade of B- | May not be taken concurrently.

BIOL 5511. Ethics in Bioinformatics. 2 Credit Hours.
This course will examine the social, legal, and privacy issues of applying computational approaches to large datasets including those from personal genome projects. The class will expose students to variation-based approaches in genomics, policies and strategies to share genomic data, database management and security, open-access and open-source philosophies, the ethics of collecting, storing, and disseminating human data, and HIPAA, FDA, and IRB regulatory policies for health care professionals and bioinformaticians. Students will be given the opportunity to discuss contemporary case studies, in addition to NIH-sanctioned online training modules (Responsible Conduct in Research).

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5521. Nucleic Acid Technologies. 1.5 Credit Hour.
This course provides a focused examination and analysis of the basic structures and properties of RNA and DNA; the enzymes that synthesize or modify these biomolecules; and biotechnological applications. The synthesis and purification of DNA and RNA will be reviewed along with detection methodologies, including enzymatic amplification, array analysis, and amplification-free (direct) approaches. Nucleic acid sequencing technologies, including the analysis of ancient or degraded DNA and emerging nanopore-based sequencing approaches, will be surveyed. Finally, the course will examine how the inherent ability of DNA and RNA to self-assemble can be harnessed to provide novel nanostructures with complex architectures, and that show promise in biomedical and biotechnological applications. Note: Biochemistry Majors who have completed CHEM 4375 or CHEM 4404 or BIOL 5501 with a minimum grade of C may register for BIOL 5521 with permission from instructor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5522. Introduction to Scientific and Regulatory Writing. 3 Credit Hours.
This course introduces students to the two primary types of medical writing done by/for pharmaceutical and biotech companies. Specifically, students will learn how to research and write abstracts, posters, clinical reports and other research manuscripts, patient education materials, and slide kits. In addition, students will be introduced to the basics of strategic planning and consulting, including the creation of publication plans and meeting planning from a marketing perspective. Students will also learn the fundamentals of regulatory writing. Topics will include overviews of U.S. and international regulatory agencies, product life cycles, the conduct of clinical trials and reporting clinical trial results, and activities and documentation involved with submissions for marketing approval of treatments.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5532. Introduction to Grant Writing. 3 Credit Hours.
This course is designed for students who plan to enter professional careers requiring knowledge of grant writing. The course will teach students the mechanics of proposal writing and the political and social aspects of "grantsmanship" as they develop their skills in identifying sources of grant funding, doing useful research to support their applications, and tailoring their proposals to specific audience interests. There will be several short writing assignments, an exam, and an independent project. Students may also be asked to engage in a collaborative grant project to help build their skills in collaboration.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
BIOL 5533. Communicating Science to a Broader Audience / Non-Scientists. 3 Credit Hours.
This writing intensive course will be developed as a hybrid class with online and in-class components, with instructor/s interacting with students by editing multiple drafts of a paper requiring the students to communicate a science topic to readers with either no science background or backgrounds in other STEM fields. The learning goal of this course will be emphasizing the communication of scientific theory and concepts to wide-ranging audiences, especially non-scientists. The class will require students to demonstrate the ability to break down complex science into accurate, yet understandable explanations, by writing an article in the style of the New York Times science section, or a science report in a newspaper such as the Philadelphia Inquirer.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 5582. Graduate Independent Study. 1 to 3 Credit Hour.
Explorative study or research initiated by a graduate student with faculty sponsorship and an approved independent study contract.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BIOL 8001. Teaching of Biology. 2 Credit Hours.
Required of all first-year teaching assistants. Instruction in the art of teaching laboratories and recitations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 8002. Teaching of Biology. 2 Credit Hours.
Required of all first-year teaching assistants. Instruction in the art of teaching laboratories and recitations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BIOL 8003. Introduction to Graduate Research. 3 Credit Hours.
This course will provide entering doctoral students in Biology with a broad perspective on philosophical and scientific reasoning, introduce overarching principles in both bioethics and biostatistics, and initiate student development through exercises that emphasize both written and oral communication skills necessary for a successful career in the sciences.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BIOL 8210. Seminar. 1 Credit Hour.
Seminar. Topics will vary.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BIOL 8220. Seminar. 1 to 4 Credit Hour.
Required Laboratory Research Rotation for all first year graduate students

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BIOL 8250. Seminar. 3 Credit Hours.
Seminar. Topics will vary.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
BIOL 8260. Seminar. 2 to 4 Credit Hours.
Seminar. Topics will vary.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

BIOL 8450. Seminar. 3 Credit Hours.
Seminar. Topics will vary.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

BIOL 8510. Seminar in Neuroscience. 3 Credit Hours.
A discussion of recent advances in the clinical and experimental Neurosciences using original research papers or reviews. Particular topics are selected on the basis of student interests and background.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

BIOL 8802. Research Techniques. 4 Credit Hours.
Laboratory instruction in the biochemical and biophysical techniques used to investigate biological problems.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

BIOL 8985. Teaching in Higher Education: Life Sciences. 1 to 3 Credit Hour.
This course focuses on the research on how people learn and best teaching practices, with the aim of preparing students for effective higher education life science teaching.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

BIOL 9283. Directed Readings. 1 to 9 Credit Hour.
Directed study and discussion of the current research literature

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

BIOL 9991. Master's Research Projects. 1 to 6 Credit Hour.
Short-term, limited research project or laboratory project in the field. This course is not the capstone project course, nor can it be used for thesis based research. The course is for master's students only, including PSM, MA or MS. This class will not confer full-time program status unless nine credits are taken.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

BIOL 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
This course is required for students who are preparing for the preliminary or candidacy examination. Students should enroll after coursework is completed or when preparing for the candidacy exam until the time that the preliminary or candidacy examination is completed. This course will confer full-time status at the minimum credit hour registration limit of one credit. All students must complete a minimum of one credit of this course. Students must complete a total of 6 credit hours of 9994, 9998 and 9999.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.
BIOL 9995. Capstone Project. 1 to 6 Credit Hour.
Capstone project for master's students including students in PSM, MA or MS. This class will provide full-time status. Students in PSM programs need to register for at least one credit of this course to fulfill program requirements. Additional credits may be required for specific programs. Students in the MA program may satisfy this course requirement by completing a library thesis. This course will confer full-time status at the minimum credit hour registration limit of one credit.

Level Registration Restrictions: May not be enrolled in one of the following Levels: Undergraduate.

Repeatability: This course may be repeated for additional credit.

BIOL 9996. Master's Thesis Research. 1 to 6 Credit Hour.
Course for master's thesis research. Only intended for students in thesis bearing master's programs. A minimum of one credit is required. This course will confer full-time status at the minimum credit hour registration limit of one credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BIOL 9997. Pre-Dissertation Research / Elevation to Candidacy. 1 to 6 Credit Hour.
This course is intended for students who are performing research prior to candidacy. Students can register for this course after required courses are completed. This course will confer full-time status at the minimum credit hour registration limit of one credit. Students must be registered for this course during the semester that they are to be elevated to candidacy examination. Students must complete a total of 6 credit hours of 9994, 9998 and 9999.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.

Biomedical Sciences (Medicine) (BMSC)

Courses

BMSC 8001. Introduction to Biochemistry and Molecular Biology. 3 Credit Hours.
Graduate level course that describes fundamentals of biochemistry and molecular biology. Topics include proteins, enzymes, ligand binding, energy metabolism, carbohydrate, lipid and amino acid metabolism, structure of RNA and DNA, chromosomes and genes, DNA replication and repair, RNA transcription, and protein translation, degradation, trafficking.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BMSC 8002. Introduction to Cell Biology and Immunology. 3 Credit Hours.
Graduate level course that describes fundamentals of cell biology and immunology. Topics include prokaryotic and eukaryotic cell biology, mitosis and meiosis, cell cycle control, membranes and membrane channels/transporters, cytoskeleton, cell differentiation, apoptosis, principles of immunology, antigens, cells of the immune system, humoral immune responses, autoimmunity, hypersensitivity and allergies, and host-pathogen interactions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
BMSC 8003. Introduction to Molecular and Cell Biology. 3 Credit Hours.
Graduate level course that describes fundamentals of molecular biology, genetics and cell biology. Topics include structure of DNA and RNA, chromosomes and genes, DNA replication and RNA, RNA transcription, protein translation, protein degradation and trafficking, prokaryotic and eukaryotic cell biology, mitosis and meiosis, cell cycle control, membranes and membrane channels/transporters, cytoskeleton, cell differentiation and apoptosis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BMSC 8101. Molecules to Cells. 6 Credit Hours.
Graduate level course that describes fundamentals of biochemistry, molecular biology, cell biology and immunology. Biochemistry, molecular biology and cell biology will consider both prokaryotic and eukaryotic organisms. Immunology will include principles of immunology and host-pathogen interactions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BMSC 8102. Experimental Design and Biostatistics. 1 Credit Hour.
This is a one-credit course designed to provide first year Biomedical Science graduate students basic information concerning experimental design and biostatistics. The emphasis of this course will be to provide practical information pertaining to the design of biomedical experiments and their analysis using a variety of statistical approaches.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BMSC 8103. Scientific Integrity and Bioethics. 1 Credit Hour.
This is a one-credit graduate course to provide Biomedical Science graduate students with instruction in ethical conduct of research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BMSC 8104. Introduction to Laboratory Research I. 1 Credit Hour.
This is a one-credit graduate course to provide Biomedical Science graduate students with exposure to the research opportunities in the five Biomedical Science research clusters and to obtain supervised research experience in the laboratory.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BMSC 8201. Organ Systems: Function, Dysfunction and Therapeutics. 4 Credit Hours.
This graduate level course provides instruction in the physiological, pathophysiological and pharmacological aspects of various organ systems. Organ systems will include cardiovascular, pulmonary, renal, endocrine, musculoskeletal and neurological.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BMSC 8202. Scientific Communications. 1 Credit Hour.
This course will provide instruction in both written and oral scientific communications. Students will be guided in the preparation of power point presentations, abstracts and full manuscripts.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BMSC 8203. Bioinformatics. 1 Credit Hour.
This is a one-credit course to provide instruction in bioinformatic approaches to the conduct of biomedical research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
BMSC 8204. Introduction to Laboratory Research II. 1 Credit Hour.
This is a one-credit course to provide Biomedical Science graduate students with supervised research experiences within laboratories.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BMSC 8205. Cell Structure & Function. 2 Credit Hours.
The goal of this course is to learn the structure and function of basic tissues in the body. Emphasis will be on the study of the structure of different cell types in the body and how this relates to their function.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BMSC 8206. Molecular, Cellular and Systems Signal Transduction. 2 Credit Hours.
This course will discuss basic mechanisms of cell signaling in a variety of different cell types.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BMSC 8207. Molecular Approaches to Research. 2 Credit Hours.
The goal of the course is to give students an understanding of basic and novel molecular approaches to biomedical research. The following major issues are addressed: (i) what are the molecular approaches most frequently used in biomedical research; (ii) why a particular approach fits a specific question asked in the course of research, and how to select the most suitable approach; and (iii) what is the molecular basis of these experimental approaches, i.e. how and why the techniques used in the lab work. Areas of instruction will include methods for the study of DNA, RNA and protein, optical approaches, transgenic animals and other animal models of human disease and single-cell analysis using flow cytometry.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BMSC 8401. Scientific Grant Writing. 1 Credit Hour.
The overall purpose of this course is to provide training to Biomedical Science graduate students in the preparation of a successful grant application.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BMSC 8500. Cancer Biology and Genetics Student Seminar and Journal Club. 1 Credit Hour.
This course will require that the student participate in two separate activities: (i) attend and participate in the student seminar series of the Cancer Biology and Genetics cluster and present a literature based seminar on a topic within this field of study, and (ii) attend and participate in a specialized journal club in an area of interest. The course director will provide students with detailed course/grading policies, schedules, and a list of journal clubs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BMSC 8502. Cancer Biology. 2 Credit Hours.
This is a Cluster-based Advanced Elective Course offered by the Cancer Biology and Genetics Cluster of the Biomedical Sciences Graduate Program. It is an interdisciplinary course taught by faculty from the School of Medicine and the Fox Chase Cancer Center. The goals of the course are 1) to provide students with a comprehensive background of cancer, from the patient to the transformed cell, 2) to provide a molecular understanding of the difference between normal and cancer cells and 3) to provide an understanding of the origins, treatments and prevention of cancer. Course syllabus will be provided by the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
BMSC 8503. Genetics and Epigenetics. 2 Credit Hours.
This is a Cluster-based Advanced Elective Course offered by the Cancer Biology and Genetics Cluster of the Biomedical Sciences Graduate Program. The focus of this course is on Hereditary Mechanisms and Epigenetics. Mendelian diseases and complex phenotypes will be reviewed. The major focus will be on mechanisms of Epigenetic modifications and heritability, including its role in development and disease. Experimental approaches to epigenetics studies will be presented and papers from the literature will be the backbone of the course. Course syllabus will be provided by the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

BMSC 8510. Special Topics in Cancer Biology and Genetics. 2 Credit Hours.
This course is based on the breaking research findings in the area of Cancer Biology and Genetics and the interests of the faculty and students within this cluster. Topics will vary year to year. The course director will provide students with detailed course/grading policies, schedules and reading lists.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

BMSC 8600. Infectious Disease and Immunity Student Seminar and Journal Club. 1 Credit Hour.
This course will require that the student participate in two separate activities: (i) attend and participate in the student seminar series of the Infectious Disease and Immunity cluster and present a literature based seminar on a topic within this field of study, and (ii) attend and participate in a specialized journal club in an area of interest. The course director will provide students with detailed course/grading policies, schedules and a list of journal clubs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

BMSC 8602. The Biology of the Immune Response. 2 Credit Hours.
This is a Cluster-based Advanced Elective Course offered by the Infectious Disease and Immunity Cluster. The focus of this course is the study of the components of the immune system, their development and function, and their roles in various pathological processes. Readings are from the primary literature including landmark papers and recently published work. The successful completion of this course will allow the application of evidence based knowledge to the graduate student's own research project. Course syllabus is provided by the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

BMSC 8603. Molecular Genetics of Human Viruses. 2 Credit Hours.
This is a Cluster-based Advanced Elective Course offered by the Infectious Disease and Immunity Cluster. This course aims to provide graduate students with the opportunity to gain knowledge of human viruses and viruses of zoonotic origins. The research methods used in medical virology relevant to elucidating viral replication and pathogenesis will be covered. In addition, the ways for which viruses are used in genetic engineering, cancer treatment and basic research will be discussed. The course covers materials from seminal papers and latest published work. The successful completion of this course will allow the application of evidence based knowledge to the graduate student's own research. Course syllabus is provided by the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

BMSC 8604. Cellular and Molecular Basis of Host-Microbe Interactions. 2 Credit Hours.
This is a Cluster-based Advanced Elective Course offered by the Infectious Disease and Immunity Cluster. The focus of this course is to understand the cellular and molecular mechanisms of microbial pathogenesis and the host response to the pathogen. Selected model organisms will be used for in depth exploration of host-pathogen interactions. In addition, certain general strategies of microbial survival and penetration, and of host recognition and response to danger signals, will be covered. Lectures present evidence for current concepts and theories from the primary literature and review articles. Conference hours cover recent relevant research papers. Course syllabus is provided by the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
BMSC 8610. Special Topics in Infectious Disease and Immunity. 2 Credit Hours.
This course is based on the breaking research findings in the area of Infectious Disease and Immunity and the interests of the faculty and students within this cluster. Topics will vary year to year. The course director will provide students with detailed course/grading policies, schedules and reading lists.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BMSC 8700. Molecular and Cellular Biosciences Student Seminar and Journal Club. 1 Credit Hour.
This course will require that the student participate in two separate activities: (i) attend and participate in the student seminar series of the Molecular and Cellular Biosciences cluster and present a literature based seminar on a topic within this field of study, and (ii) attend and participate in a specialized journal club in an area of interest. The course director will provide students with detailed course/grading policies, schedules and a list of journal clubs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BMSC 8702. Enzymes and Proteins. 2 Credit Hours.
This is a Cluster-based Advanced Elective Course offered by the Molecular and Cellular Biosciences Cluster. The overall goal of this course is to enable students to understand protein structural and catalytic aspects of contemporary biochemistry. The student who completes this course will be able to engage in dialog about protein structure and function. The student will be able to understand, visualize, reshape, present and discuss data from original sources. Course syllabus is provided by the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BMSC 8703. RNA and its Role in Gene Expression. 2 Credit Hours.
This is a Cluster-based Advanced Elective Course offered by the Molecular and Cellular Biosciences Cluster. The focus of this course is on the study of RNA and its multiple roles in gene expression. The structure, synthesis, processing and function including protein translation of both classic RNA molecules (mRNA, tRNA and rRNA) and nontraditional RNA molecules (such as miRNAs, long noncoding RNAs, RNAs with enzymatic activity) are discussed. Both single molecule based approaches and genomic approaches are discussed. Readings are from the primary literature including landmark papers and recently published work. Course syllabus is provided by the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BMSC 8704. Molecular Physiology of Ion Signaling. 2 Credit Hours.
This is a Cluster-based Advanced Elective Course offered by the Molecular and Cellular Biosciences Cluster. The overall focus of this course is on ion channels and their function in biological systems. Part 1 of the course focuses on ion balance, channel classes and channel structures. Part 2 focuses on the biological impact of ionic control of cytosolic Ca2+ concentration. Part 3 focuses on the impact of these changes on physiology and disease in multiple organ systems. Course syllabus is provided by the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BMSC 8705. Biophysical Approaches to Research. 2 Credit Hours.
This is a Cluster-based Advanced Elective Course offered by the Molecular and Cellular Biosciences Cluster. Students will learn to appreciate how biophysical principles can be used to understand and measure properties of biomolecules and cells. The areas covered in the course emphasize how to generate, analyze and interpret quantitative information about biological molecules or systems. Course syllabus is provided by the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BMSC 8706. Structure and Dynamics of Biomolecules and Assemblies. 2 Credit Hours.
This is an advanced topics course offered for students in the second year of study in the Biomedical Sciences Graduate Program. The course will focus on understanding structure and behavior of biomolecules and assemblies, including the chemical basis for molecular interactions and techniques for studying macromolecular structure.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
BMSC 8710. Special Topics in Molecular and Cellular Biosciences. 2 Credit Hours.
This course is based on the breaking research findings in the area of Molecular and Cellular Biosciences and the interests of the faculty and students within this cluster. Topics will vary year to year. The course director will provide students with detailed course/grading policies, schedules and reading lists.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BMSC 8800. Neuroscience Student Seminar and Journal Club. 1 Credit Hour.
This course will require that the student participate in two separate activities: (i) attend and participate in the student seminar series of the Neuroscience cluster and present a literature based seminar on a topic within this field of study, and (ii) attend and participate in a specialized journal club in an area of interest. The course director will provide students with detailed course/grading policies, schedules and a list of journal clubs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BMSC 8802. Essentials of Neuroscience. 1 to 2 Credit Hour.
This is a REQUIRED Cluster-based Advanced Course offered by the Neuroscience Cluster of the Biomedical Sciences Graduate Program. This course is open to all graduate students in all disciplines with an interest in learning basic neuroscience. This course focuses on the basic neurophysiological and neuroanatomical aspects of the organization of the nervous system. Neuroanatomical structures and their function will be covered using a system based approach. Sensory, motor and special sensory systems will be included. Course syllabus is provided by the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BMSC 8803. Molecular and Cellular Neuroscience. 2 Credit Hours.
This is a Cluster-based Advanced Elective Course offered by the Neuroscience Cluster. The overall goal of this course is to provide an integrated approach to the understanding of the structure and function of neurons and glia. Topics include the cellular structure of neurons and glia, molecular mechanisms for neural transmission and plasticity, new concepts on neurogenesis and cell fate decisions, signaling pathways for neuronal polarization and neuritogenesis, molecular biology and function of glia, neuron-glia interactions, glial cell pathophysiology, neuroinflammation and the role of glia in the development and progression of various neurological disorders and diseases. Course syllabus is provided by the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BMSC 8804. Neuropharmacology. 2 Credit Hours.
This is a Cluster-based Advanced Elective Course offered by the Neuroscience Cluster. The overall goal of this course is to provide the basic aspects of neuropharmacology by investigating mechanism by which drugs influence and/or modulate different neural system activities and functions. The molecular, cellular and biochemistry characteristics of several classes of drugs with implications for human pathologies will be discussed. Four areas of emphasis will include: structure and function of the nervous system, neurotransmitters and neuromodulators, neuroinflammation and neurodegeneration. Course syllabus is provided by the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BMSC 8805. Pharmacology of Drugs of Abuse. 2 Credit Hours.
This is a Cluster-based Advanced Elective Course offered by the Neuroscience Cluster. The focus of this course is on the pharmacology of drugs of abuse. Topics include historical perspectives of drug abuse, cellular responses to acute and chronic exposure to drugs of abuse, effects of drugs of abuse on the immune system, and medical treatment of drug dependence. Specific drug classes that are covered include opioids, cocaine, amphetamines, spice and bath salts, club drugs, LSD and PCP, alcohol, caffeine, nicotine, benzodiazepines and sedatives, and cannabinoids. Course syllabus is provided by the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
BMSC 8806. Translational Science of Nervous System Diseases. 2 Credit Hours.
This is a Cluster-based Advanced Elective Course offered by the Neuroscience Cluster. Students will gain knowledge of translational science regarding the molecular basis of various nervous system diseases, current treatments and rehabilitation, and advances in animal modeling of disease that address prevention and improved treatment modalities. Course syllabus is provided by the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BMSC 8807. Developmental Neurobiology. 2 Credit Hours.
This course will focus on the molecular and cellular mechanisms that govern development of the mammalian central nervous system. Topics include but are not limited to: Development of the Cerebral Cortex, Retinal Development, Glial Development, White Matter Maturation, Neuroprogenitors Cells, Axonogenesis and Dendritogenesis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BMSC 8810. Special Topics in Neuroscience. 2 Credit Hours.
This course is based on the breaking research findings in the area of Neuroscience and the interests of the faculty and students within this cluster. Topics will vary year to year. The course director will provide students with detailed course/grading policies, schedules and reading lists.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BMSC 8800. Organ Systems and Translational Medicine Student Seminar and Journal Club. 1 Credit Hour.
This course will require that the student participate in two separate activities: (i) attend and participate in the student seminar series of the Organ Systems and Translational Medicine cluster and present a literature based seminar on a topic within this field of study, and (ii) attend and participate in a specialized journal club in an area of interest. The course director will provide students with detailed course/grading policies, schedules and a list of journal clubs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BMSC 8902. Mechanisms of Cardiovascular Pathophysiology. 2 Credit Hours.
This is a Cluster-based Advanced Elective Course offered by the Organ Systems and Translational Medicine Cluster. The overall goal of this team-taught course is to introduce graduate students to the cellular and molecular mechanisms of multiple cardiovascular diseases, with a focus on experimental approaches. The approach will combine didactic presentation with relevant important scientific literature. Course syllabus is provided by the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BMSC 8903. Hemostasis and Thrombosis. 2 Credit Hours.
This is a Cluster-based Advanced Elective Course offered by the Organ Systems and Translational Medicine Cluster. Selected areas of Hemostasis and Thrombosis will be addressed from a historical perspective to state of the art technology and knowledge. This course will study molecular mechanisms and signal transduction events that regulate hemostasis through coagulation cascades and platelet function. The implications of treatments of bleeding disorders, thrombosis, and the therapeutics will be discussed. Students are expected to read seminal papers and participate in class by contributing to discussion. Each topic will have discrete study objectives. Course syllabus is provided by the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
BMSC 8904. Translational Pulmonary Physiology - Experimental Basis. 2 Credit Hours.
This is a Cluster-based Advanced Elective Course offered by the Organ Systems and Translational Medicine Cluster. Selected areas of pulmonary physiology will be addressed from application, experimental, and historical perspectives. This course will study mechanisms that underlie major pulmonary diseases such as acute respiratory distress syndrome, chronic obstructive pulmonary disease, asthma, and ventilator induced lung injury. How these diseases modify the function of the pulmonary system, the mechanical, circulatory and inflammatory profiles of the lung, and interventions to attenuate dysfunction will be discussed. Students are expected to read seminal papers and participate in class by contributing to discussion. Each topic will have discrete study objectives. Course syllabus is provided by the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BMSC 8905. Advanced Pharmacology and Translational Medicine. 2 Credit Hours.
This is a Cluster-based Advanced Elective Course offered by the Organ Systems and Translational Medicine Cluster. Pharmacology is the study of biochemical and physiological processes mediated through exogenous or endogenous substances that interact with living systems. Translational medicine aims to use pharmacological discoveries to develop novel therapies in treatment of human disease. The overall goal of this course is to introduce students to the subject of advanced pharmacology and then to focus on recent advances in methodologies used to develop new therapeutics with an emphasis on experimental approaches. The approach will combine didactic presentation with a combination of informal discussion of important scientific literature. Course materials will be handouts/lecture slides provided by each instructor, and selected research papers from the literature. Each lecture will provide a solid foundation for students to understand the methods and techniques used in experimental pharmacology and translational medicine in addition to the concepts. Student participation in the form of questions and discussion is encouraged. Course syllabus is provided by the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BMSC 8906. Development, Function and Diseases of the Musculoskeletal System. 2 Credit Hours.
This is a Cluster-based Advanced Elective Course offered by the Organ Systems and Translational Medicine Cluster. Lecture topics will include: musculoskeletal histology, development of limbs, muscle, bone and joints, diagnostic imaging of musculoskeletal system and cartilage repair/fracture, cell biology of osteoblasts and osteoclasts, biomechanics of musculoskeletal system, skeletal pathologies and central nervous system/bone interactions. Course syllabus is provided by the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BMSC 8907. Organ Metabolism - Molecular Pathology and Experimental Models. 2 Credit Hours.
This is an advanced topics course offered to students in the second year of study in the Biomedical Science Graduate Program. The overall goal of this course is to introduce students to the subject of systemic metabolism and organ metabolism and relate this to various key organ pathologies and diseases. Emphasis will be placed on recent advances in molecular pathways along with the experimental models and methodologies used to develop new therapeutics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BMSC 8910. Special Topics in Organ Systems and Translational Medicine. 2 Credit Hours.
This course is based on the breaking research findings in the area of Organ Systems and Translational Medicine and the interests of the faculty and students within this cluster. Topics will vary year to year. The course director will provide students with detailed course/grading policies, schedules and reading lists.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BMSC 9991. Biomedical Science Research. 1 to 6 Credit Hour.
Students will perform supervised laboratory research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
BMSC 9994. Preliminary Exam Preparation. 1 to 6 Credit Hour.
Biomedical Science students will enroll in this course when they are preparing for the PhD Preliminary Examination.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

BMSC 9995. Master's Project. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

BMSC 9996. Master’s Thesis. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

BMSC 9998. Postcandidacy Research. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

BMSC 9999. Dissertation Writing. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

Business Administration (BA)

Courses

BA 5001. Industrial Organization for Business Strategy. 1 to 3 Credit Hour.
The course is an applied managerial economics course; industrial organization serves as a foundation for business management and strategy. The course provides the framework within which to study market equilibrium, firm and consumer behavior, and strategic interactions through the lens of firm and firm management. The tools of managerial economics are applied to study problems involving business strategy, industry evolution and dynamics, pricing methodologies, dealing with competitors, managing under uncertainty, asymmetric information, price discrimination, antitrust, auctions, and externalities.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may not be repeated for additional credits.

BA 5002. Socioeconomic Context of Business. 3 Credit Hours.
Today's business environment is full of challenges in the form of global competition, regulatory change, rapid technological change and domestic and international market instability. In this context, knowledge of both micro- and macro-economics is becoming an increasingly important tool for solving real world problems. This course is divided into two modules. In the first module, we delve into the microeconomics foundations of business. In the second module, we focus on domestic and global macroeconomics. Economics is a basic underpinning of firm strategy. Economics focuses on the role of markets, the economic behavior of consumers and enterprises, market efficiency, the role of the public sector, firm behavior and the organization of industry. We will discuss important ways in which markets fail, and the challenges and opportunities these market failures create for entrepreneurs and existing businesses. Macroeconomics involves the study of the performance of national economies and the policies that governments use to try to improve economic performance. In this section of the course, we will discuss key economic concepts and data such as GDP, employment, interest rates, inflation, business cycles, and exchange rates to better understand the meaning and significance of these data and their impact on the business environment.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
BA 5051. Enterprise Management Consulting Experience (EMC) I. 3 Credit Hours.
The EMC Practicum is an innovative hands-on learning experience involving faculty and students. During their practicum, cross-cultural student teams will assist firms or divisions on a live consulting project. MBA student teams will integrate course work, business experience, and primary and secondary research into highly professional market entry strategies or business plans.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

BA 5052. Enterprise Management Consulting Experience (EMC) II. 3 Credit Hours.
The EMC Practicum is an innovative hands-on learning experience involving faculty and students. During their practicum, cross-cultural student teams will assist firms or divisions on a live consulting project. MBA student teams will integrate course work, business experience, and primary and secondary research into highly professional market entry strategies or business plans.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

BA 5087. Leadership and Professional Development Practicum. .5 to 1.5 Credit Hours.
This academic content provides students with an understanding of human behavior in organizations and the means through which managers can influence that behavior. Specifically, the class considers key situations where the effective exercise of leadership can materially contribute to the achievement of strategic organizational objectives. Emphasis is placed on identifying and developing the personal skills and perspectives necessary to establish and maintain a leadership position, e.g., self-awareness and abilities in such areas as communication, decision-making, problem solving, and behavioral management. These skills are then applied through a carefully crafted practicum to facilitate acquisition of competencies through professional and career development opportunities and planned opportunities to exercise leadership with the context of the program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may be repeated for additional credit.

BA 5088. Ethical Decision Making in Business and Professional Development Practicum. .5 to 1.5 Credit Hours.
This academic content looks at business in the context of its various stakeholders, including shareholders, management, employees, customers, suppliers, government regulators, and local/national/global communities. It explores a range of issues from the role of business in society at large to the ethical dimensions of ordinary business decision-making. Emphasis is placed on identifying and developing the personal skills and perspectives necessary to engage in ethical decision making and leadership e.g., personal ethical behavior, facing ethical dilemmas, whistle blowing and ethical responses to unethical corporate practices. These skills are then applied through a professional development practicum to facilitate acquisition of competencies through professional and career development opportunities and planned opportunities to exercise ethical decision making within the context of the program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may be repeated for additional credit.

BA 5111. Globalization. 1.5 Credit Hour.
Gives students an understanding of the nature and complexity of the dynamic global environment that serves as the external context for the operations of international companies and that is an integral part of understanding international business. Explores the phenomena of globalization and the interdependence of nation states as they impact companies and industries throughout the world.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

BA 5112. Managing Risk. 1.5 Credit Hour.
Examines in detail the holistic risk management process from the perspective of an international corporation and defines what risk management is and why organizations have risk managers. Class discussion topics include ethical risk and insurance management practices, as well as administrative and strategic aspects of global corporate risk management such as drafting risk management policy statements, setting risk management goals, and examining how a risk manager operates within a complex international organization.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
BA 5113. The Valuation of Firms. 1.5 Credit Hour.
Introduces the use of accounting numbers for valuation for both external purposes, including investor models of firm value and credit risk assessment, as well as internal purposes, including project assessment and performance evaluation. Focuses specifically on an accounting review of fundamentals, firm valuation, cash flows, earnings, modeling financial distress, and using residual income to evaluate performance.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BA 5114. Entrepreneurial Thinking and Innovation. 1.5 Credit Hour.
Examines issues relevant for entrepreneurs engaged in start-up or early stage ventures as well as those important to managers and stakeholders of new ventures within established organizations, including concepts, skills, know-how, information, attitudes and alternatives. Focuses on two key success factors in new enterprise formation: the entrepreneur and his/her ability to create and recognize opportunities.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BA 5115. Law and Ethics in Business. 1.5 Credit Hour.
Imparts a sense of when and how the legal system may affect business, particularly in the areas of contract, tort, and government regulation. Develops an appreciation of the fact that law and ethics seem many times in business to converge, while in other instances what is legal may not be ethically correct. Explores through discussion of business ethics case studies how such situations arise and how they might be resolved or prevented. Includes training for online research, especially in legal areas using Lexis-Nexis database, and practice in the art of making well-reasoned written and oral arguments.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BA 5116. Information Technology Perspectives. 1.5 Credit Hour.
Provides through discussions of technological and organizational issues an overview of the basic concepts underlying the development and implementation of emerging information technologies that are reshaping businesses and business practices. Culminates in a case study development project.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BA 5117. Managing People and Organizations. 3 Credit Hours.
Focuses on basic issues concerning the management of organizations and human resources, with major emphasis on critical analysis, problem solving and performance evaluation. Provides opportunities to improve managerial and leadership skills through verbal presentations, group work, and specific case analysis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BA 5118. Strategic Performance Management. 3 Credit Hours.
This course has been designed to emphasize two fundamental issues in contemporary management practice: strategic cost analysis and management control. Strategic cost analysis deals with how managers’ actions affect costs and revenues in a competitive context, and how financial and nonfinancial information can support decisions that enhance the value of the firm. Management control pertains to a study of systems designed for performance measurement and evaluation, rewarding and motivating employees, and coordinating business operations. The emphasis will be on transformational systems such as activity based costing and balanced scorecard.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BA 5170. Special Topics. 1 to 6 Credit Hour.
Special topics courses are developed to cover emerging issues or specialized content and they do not repeat material presented by regular semester courses.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may be repeated for additional credit.
BA 5180. Special Topics. 1 to 6 Credit Hour.
Special topics courses are developed to cover emerging issues or specialized content and they do not repeat material presented by regular semester courses.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BA 5182. Independent Study. 1 to 6 Credit Hour.
Study in particular aspects of business administration under the direct supervision of a graduate faculty member. No more than six semester hours of independent study may be counted toward degree requirements.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BA 5187. IMBA Practicum: Corporate Visits and Mentoring. 1 to 6 Credit Hour.
This practicum consists of selected visits to a variety of multinational corporations in Europe, Asia and Philadelphia. Students are exposed to senior officials who outline the factors that go into their international strategic decision making. These interactive sessions, which include question and answer periods, are designed to provide real world insights to corporate behavior and to highlight factors that are important in the international arena. In addition, students may engage in team projects during their summer practicum in Asia.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BA 5190. Special Topics. 1 to 6 Credit Hour.
Special topics courses are developed to cover emerging issues or specialized content and they do not repeat material presented by regular semester courses.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BA 5282. Independent Study. 1 to 3 Credit Hour.
Study in particular aspects of business administration under the direct supervision of a graduate faculty member. No more than six semester hours of independent study may be counted toward degree requirements.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BA 5287. Enterprise Management Consulting Practicum. 1 to 6 Credit Hour.
The EMC practicum is an innovative hands-on learning experience involving faculty and students. During their practicum, cross-cultural student teams will assist firms or divisions on a live consulting project. MBA student teams will integrate course work, business experience, and primary and secondary research into highly professional market entry strategies or business plans.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Business Admin.

Repeatability: This course may be repeated for additional credit.
BA 5301. Analytic Foundations of Strategy. 1.5 Credit Hour.
The purpose of this course is to provide the foundation for the competitive strategy sequel course that is linked to this course. It develops the key concepts of industry structure and the underlying economics. It provides the students with a common template to describe the firm strategy. It introduces game theory but more importantly requires the students to apply it first in simple cases and later in a two part simulation project in which students use real data to work through strategic issues in a single industry.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Co-requisites: SGM 5301.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(STAT 5301|Minimum Grade of B-|May be taken concurrently)
AND (MIS 5301|Minimum Grade of B-|May be taken concurrently)
AND (FIN 5301|Minimum Grade of B-|May be taken concurrently)
AND (ACCT 5301|Minimum Grade of B-|May be taken concurrently)

BA 5387. Advanced Professional Development Strategies. .5 to 3 Credit Hours.
CSPD Advanced Professional Development Strategies is designed to help graduate students connect past education, current education and professional experience to rewarding career opportunities. Doing so will require the same professionalism and competencies that are important to employers: an open mind, strong organization skills, persistence, and attention to detail.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may be repeated for additional credit.

BA 5388. Enterprise Management Consulting Practicum. 3 to 6 Credit Hours.
The Enterprise Management Consulting Practicum (EMC) is a capstone experience that integrates MBA class work and applies that integrated knowledge to evidence-based and theoretically informed strategic consulting for real firms. This experience is designed to help students apply competencies and skills acquired in the MBA program to recognize and assess strategic opportunities; conduct top-notch industry and competitive analysis; foresee and manage strategic implementation and control issues; and lead change by generating support for recommendations. This experience is also designed to produce useful results for real firms with very real problems, noteworthy uncertainties and challenging timelines. These objectives are accomplished by combining readings, discussion, business analysis, coaching from project managers and an advisory board, and commercial-grade work on real projects. The case studies and readings provide the conceptual foundations required to manage strategically and consult effectively. The projects offer opportunities to apply and refine your emerging conceptual skills. The faculty, project manager and advisor coaching lends the support and insight necessary to perform at the highest level.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

BA 5389. Global Immersion Experience. 1 to 6 Credit Hour.
This course provides field experience in an emerging market economy that allows students an immersive experience in which they observe firms and participate in short term projects to provide a much greater understanding of the application of MBA coursework in assessing the strategic landscape of the destination country.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Business Admin.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may be repeated for additional credit.
BA 5401. Analytic Foundations of Strategy. 1.5 Credit Hour.
The purpose of this course is to provide the foundation for the competitive strategy sequel course that is linked to this course. It develops the key concepts of industry structure and the underlying economics. It provides the students with a common template to describe the firm strategy. It introduces game theory but more importantly requires the students to apply it first in simple cases and later in a two part simulation project in which students use real data to work through strategic issues in a single industry.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Co-requisites: SGM 5401.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ACCT 5401|Minimum Grade of B-|May not be taken concurrently)
AND (FIN 5401|Minimum Grade of B-|May not be taken concurrently)
AND (STAT 5001|Minimum Grade of B-|May not be taken concurrently)
AND (MIS 5401|Minimum Grade of B-|May not be taken concurrently)
OR (MIS 5301|Minimum Grade of B-|May not be taken concurrently)

BA 5488. Enterprise Management Consulting Practicum. 3 to 6 Credit Hours.
The Enterprise Management Consulting Practicum (EMC) is a capstone experience that integrates MBA class work and applies that integrated knowledge to evidence-based and theoretically informed strategic consulting for real firms. This experience is designed to help students apply competencies and skills acquired in the MBA program to recognize and assess strategic opportunities; conduct top-notch industry and competitive analysis; foresee and manage strategic implementation and control issues; and lead change by generating support for recommendations. This experience is also designed to produce useful results for real firms with very real problems, noteworthy uncertainties and challenging timelines. These objectives are accomplished by combining readings, discussion, business analysis, coaching from project managers and an advisory board, and commercial-grade work on real projects. The case studies and readings provide the conceptual foundations required to manage strategically and consult effectively. The projects offer opportunities to apply and refine your emerging conceptual skills. The faculty, project manager and advisor coaching lends the support and insight necessary to perform at the highest level.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

BA 5601. Corporate Instructional Design Theory. 3 Credit Hours.
Most training programs are built with highly interactive and complex technology. Use of industry standard tools to deliver training requires a foundation in the principles of instructional design. This course introduces theories and methods in the field of instructional design and how these are applied to building and delivering training with industry standard technology. In this course, students will learn to utilize the industry’s most prominent method/theories for project scoping and development of organizational training. Defining the business need, identifying the project scope, accommodating various adult learning styles, audience analysis, delivering effective virtual training will be reviewed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BA 5602. Managing Multimedia and Web Development for Instructional Design. 3 Credit Hours.
This course will build students’ technical skills in multi-media development and web design. Proper visual design and implementation of technology facilitates the user experience. Students will learn how to merge technical skills with a design theory to present information in usable ways for users. Students will review the fundamentals of how to manipulate images, documents and videos using industry standard software in order to create effective and engaging training deliverables. Taking what they have created, students will design a comprehensive website to display and manage a training solution. Additionally, students will look at how to use technology to leverage an organization and meet its training and development needs to drive engagement and growth. Students will review the fundamentals of how networks and the internet work, specifically noting the need and use of a Learning Management System in the workplace. This course offers a hands-on experience in building a webpage using HTML/CSS and administering information to a company through an LMS/CMS.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
BA 5603. Authoring. 3 Credit Hours.
Students will demonstrate the basic elements of current authoring software(s) used to develop simulations and training for today's corporate industries. Students will use the basic framework of these programming systems to customize training modules according to the needs and desired outcomes of an organization. The deliverables in this course will be original training programs developed by the student and evaluated in terms of good design, and an emphasis on functional user interface and effectiveness for training.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

BA 5604. Instructional Design Learning Analytics. 3 Credit Hours.
Data is constantly created. Understanding what that data means and how to leverage the results is a critical skill that the Instructional Designer must possess. Students will demonstrate how learning analytics must be incorporated within the design and development processes to adjust deliverables as needed and fit the learning needs of the audience. Data extraction and measurement of outcomes provide the instructional designer with insight on how effective the product was and how to build and implement improvements. Students will learn how to measure outcomes, clean and interpret data and report results to the client in a meaningful way. Also addressed, the role of adaptive learning and how analytics can help to design adaptive learning spaces for eLearning modules. The LMS and how data is pulled and used from these systems will be discussed.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

BA 5651. Business Analytics Capstone. 3 Credit Hours.
The course is designed as the capstone experience for the MS in Business Analytics program and, as such, synthesizes all of the learning from previous coursework in this program. Student groups are paired with firms and work as consultants to provide data analytic solutions. This will allow students a first-hand perspective on decision making by management and understanding the organizational implications.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may be repeated for additional credit.

BA 5687. MS Advanced Professional Development Strategies. 0 Credit Hours.
Your academic education and your ongoing professional development will influence your career with unerring certainty. Because the personal stakes associated with managing one's career are high, the topics in this course involve more than "intellectual" comprehension. Accordingly, this course will focus on selected aspects of 1) career exploration; 2) the internship and job search and; 3) the "unwritten rules of engagement" in the professional work environment.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

BA 5751. Multinational Management and Policy. 3 Credit Hours.
Enhance the diagnostic and problem solving capabilities of decision-makers when confronted with a variety of strategic and/or operational problems in a diverse set of domestic and international environments and situations. Integrate material from functional and general management courses and apply it in the diagnosis and solution of problems that require an integrated company-wide approach. Relies heavily on the case study approach and builds on the Fall course of Management Processes in Global Corporations. Note: Enrollment limited to students in the IMBA program.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

BA 5800. Special Topics. 3 Credit Hours.
Special topics courses are developed to cover emerging issues or specialized content and they do not repeat material presented by regular semester courses.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.
BA 5801. Industrial Organization and Corporate Strategy. 3 Credit Hours.
Today's executives face an array of commercial problems, a need to develop winning corporate strategies, and the capability to seek practical solutions to critical business issues. The primary focus of this course is on the application of principles of industrial organization to the development and evaluation of corporate strategy. The course will be taught from the perspective of a current executive. In this course, you will examine market function, consumer and firm behavior, and implications for market efficiencies. You will examine how knowledge of markets can be used to establish competitive position. You will use national accounting data to analyze the influences of governmental fiscal, monetary, and trade policies, employment, interest rates and economic growth (or decline) on the executive's options in making key strategic decisions. Realistic short business case study examples are provided demonstrating the power of combining the knowledge of economics with analytical tools that yield valuable insights to solve an array of specific internal commercial problems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may not be repeated for additional credits.

BA 5804. Global Enterprise Mgt. 3 Credit Hours.
Learn about multinational business firms and the strategies used to gain competitive advantage in international markets. Develop analytical techniques for studying problems facing multinational firms and designing systems for managing multinational enterprise.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

BA 5851. Strategy Formulation and Administration. 3 to 4 Credit Hours.
Participate in an interactive learning experience while examining the functions, role and skills of top-level executives. Knowledge gained and analytical methods used, in prior courses will be used in analyzing cases from the perspective of the chief executive. Implementation of strategies will be a primary focus. Enrollment limited to students in the Executive M.B.A. program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

BA 5882. Independent Study. 1 to 6 Credit Hour.
Study in particular aspects of business administration under the direct supervision of a graduate faculty member. No more than six semester hours of independent study may be counted toward degree requirements.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

BA 5890. Special Topics. 1 to 6 Credit Hour.
Special topics courses are developed to cover emerging issues or specialized content and they do not repeat material presented by regular semester courses.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

BA 5955. Policy Formulation and Administration. 3 Credit Hours.
Policy and strategy decision-making roles of top-level managers. Total enterprise problems involving integration of organization objectives, relationships between organization objectives and societal values, policy formulation, corporate strategy, and implementation of top management decisions. Limited to students admitted to MBA program prior to Fall 2005. Note: Intended to be taken in the final semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
BA 8985. Teaching in Higher Education: Business. 3 Credit Hours.
This course is required for any student seeking Temple University's Teaching in Higher Education Certificate. The course focuses on the research on how people learn best teaching practices, with the aim of preparing students for effective higher education teaching. All educational topics are considered through the lens of teaching in particularly scholarly areas or disciplines. Course instructors will model innovative teaching methods and uses of technology throughout the semester, providing an experiential component to the learning. The course specifically focuses on the application of the course content to the teaching of courses in business and management.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BA 9001. Organizations and Management Theory. 3 Credit Hours.
This course acquaints students with classic works, current representative theories, and empirical research in the fields of organization behavior and management. Material is grouped into twelve perspectives/topic areas: bureaucracy, scientific management, human relations, contingency theory, lean & quality management, transaction cost theory, network approach, national culture, human resource development, power & politics, labor process, and complexity/chaos theory. Emphasis is on understanding the range of approaches in these fields and developing critical analysis skills.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BA 9002. Scientific Inquiry-Management Research. 3 Credit Hours.
This course examines the nature and logic of empirical science, with particular attention to theoretical and applied business research. Topics include: the scientific method, positivism, paradigms, interpretive approaches, postmodernism, and critical research. The course also introduces a range of methods and techniques current in business research, including "grounded theory," measurement, interviewing, survey design, case studies, causal modeling, longitudinal and historical analysis, experiments, and research ethics. Students are asked to apply each of the course topics to the design of research on a topic of their own choosing. There is also a laboratory session in the use of the SPSS statistical package to analyze quantitative data.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BA 9003. Seminar in Organizational Behavior. 3 Credit Hours.
The purpose of the course is to provide foundation knowledge in Organizational Behavior, including classic and contemporary theories, ongoing controversies, and ground-breaking empirical studies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BA 9090. Special Topics in Business Administration. 1 to 6 Credit Hour.
Content varies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BA 9103. Econ Theory of Choice. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BA 9104. Game Theory. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(BA 9103|Minimum Grade of B-|May not be taken concurrently)
AND (STAT 8001|Minimum Grade of B-|May not be taken concurrently)

BA 9105. Bus Rsrch Econometrics I. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
BA 9106. Bus Rsch Econometrics II. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BA 9108. Capital Markets Research. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
BA 9103|Minimum Grade of B-|May not be taken concurrently.

BA 9183. Directed Study in Business. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may be repeated for additional credit.

BA 9201. Quant Methods in Bus Res. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
STAT 8002|Minimum Grade of B-|May not be taken concurrently.

BA 9202. Qualitative Research Methods. 3 Credit Hours.
Methods constitute the "lenses" through which scholars view their empirical phenomena. And different methods afford clearer views of different phenomena. Qualitative methods in particular have produced some of the most influential scholarly works within several domains of business research. As consumers, producers, and reviewers of such research, it is therefore important that doctoral students develop greater facility with these methods. The intents of this seminar are thus to help participants add a qualitative lens to their scholarly toolkits -- and to identify the empirical phenomena within their domain of study that are most clearly seen through qualitative methods. At the end of this seminar, participants should expect to have a sophisticated understanding of qualitative research and the resources needed to conduct and publish high-quality scholarship. This seminar is relevant to any doctoral student seeking to better understand human behavior in complex systems, but focuses primarily on organizational contexts. Thus, although the methods being taught are widely applicable, the exemplar articles and best practices for data analysis and publication will be most relevant to business administration students. Participants should expect wide exposure to business administration phenomena, with readings drawn from domains such as organizational behavior, strategy, management information systems, marketing, international business, hospitality, tourism, accounting, and finance.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BA 9203. Financial Economics. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

BA 9205. Information Economics. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(BA 9103|Minimum Grade of B-|May not be taken concurrently)
AND (BA 9104|Minimum Grade of B-|May not be taken concurrently)
AND (STAT 8001|Minimum Grade of B-|May not be taken concurrently)
BA 9207. Quantitative Research Methods II. 3 Credit Hours.
This course provides an overview of intermediate quantitative research methods used in the social sciences. Topics include theory of measurement, types of measures, measurement validation, power analysis, experimental designs and analysis of experimental data, survey design and analysis of survey data, and collection and analysis of archival data. The course includes a project that focuses on the design, development, and testing of theoretical models using experimental, survey, or archival data. The project includes an important research topic, a set of testable hypotheses, the empirical method to be used, data collection, data analysis, and interpretation of the results.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
BA 9201|Minimum Grade of B-|May not be taken concurrently
OR BA 9105|Minimum Grade of B-|May not be taken concurrently.

BA 9208. Quantitative Research Methods III. 3 Credit Hours.
This course aims to provide an overview of advanced quantitative research methods that are used in the social sciences. Topics include structural equation modeling (SEM), longitudinal modeling, multi-level modeling, causal modeling, polynomial regression models with response surface methodology, and emerging methods and tools for configuration theories.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
BA 9201|Minimum Grade of B-|May not be taken concurrently
OR BA 9105|Minimum Grade of B-|May not be taken concurrently.

BA 9209. Business Econometrics III. 3 Credit Hours.
BA 9209 is the third course in the econometrics series for doctoral students. It focuses on non-linear models and covers multiple practical situations in which classic linear methods are inappropriate. In particular, topics include sample selection and attrition models, treatment evaluation, duration analysis, and count data models. Also, several advanced estimation techniques such as GMM, bootstrap, and kernel regression will be discussed. Although the majority of lectures will be devoted to cross-sectional methods, the basics of time series analysis will also be covered. The assigned problem sets will include the analysis of practical situations requiring advanced econometric techniques as well as empirical exercises.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
BA 9106|Minimum Grade of B-|May not be taken concurrently.

BA 9212. Seminar in Global Finance and Governance. 3 Credit Hours.
The course introduces students to the basic academic literature in global finance and governance at a doctoral level and to selected advanced topics in this area. The aim is to prepare students to read the literature critically, to strengthen their independent skills, and to help them be ready to select topics in global finance and governance and related areas. Topics will be flexible to class needs but include corporate exchange risk management, international investments, global corporate governance, firm boundaries, financial and strategic issues of multinational firms, and others.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School, Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.
BA 9801. Understanding the Firm through Management and Organizational Theory. 3 Credit Hours.
Understanding the shifts in business and their implications for organizations is essential to identifying new areas of study for the modern organization. Firms must adapt to their changing environments by adopting new strategies through analysis and understanding of internal and external contexts. This enhances organizational capability, which is required in order to maintain effectiveness and competitiveness in national, regional and global markets. This course examines the dynamics of complex, global organizations through the lens of foundational theory in management and organizational behavior, including: strategic management; theory of organizations and industries; and behavior of individuals, groups, and organizations in global settings. Students will learn to build on this foundational research by formulating new research questions that address emerging issues and challenges for the modern organization.

Department Restrictions: Must be enrolled in one of the following Departments: Business:MA/MS/Ph.D Program.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Business Admin.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mgmt, Fox School, Sport Tourism Hospitality Mgt.

Repeatability: This course may be repeated for additional credit.

BA 9802. Scientific Inquiry through Applied Research. 3 Credit Hours.
What is research and how is it done? What is theory? What makes a study both practically relevant and of high-quality? This course addresses these questions through an exploration of the philosophy of science and applied scholarly research. It introduces the philosophy of scientific inquiry, common research approaches (e.g., quantitative and qualitative) and common perspectives (e.g., positivistic, interpretative, and critical). Students will learn the basic principles of theory development and testing as well as how to build a conceptual research model. This course takes an "engaged scholarship" perspective, with the aim to influence management practice through rigorous, applied study. Topics include identifying a research topic, forming theoretically-grounded research questions, conducting a literature review, and developing a plan for field work and data collection. This course enables students to identify and foster their personal research interests through a research proposal developed iteratively throughout the course.

Department Restrictions: Must be enrolled in one of the following Departments: Business:MA/MS/Ph.D Program.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Business Admin.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mgmt, Fox School, Sport Tourism Hospitality Mgt.

Repeatability: This course may be repeated for additional credit.

BA 9803. Navigating the Global Marketplace. 3 Credit Hours.
Global structures and institutions drive the strategic behavior underlying their business decisions. The reality of business today requires understanding and working within an industry's multifirm global value chain. Firms operating in the global marketplace must be responsive to and understand differences in political, legal, and economic systems between countries. This course explores the state-of-the-art research surrounding the contemporary global organization and serves as the foundation for applied research into the dynamics of strategy and competition within a global context. Topics include critical elements of global strategic operations including international trade, location of the multinational enterprise, innovation in emerging economies, market entry, and knowledge flows within the firm.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BA 9806. Integrative Perspectives on Business Knowledge. 3 Credit Hours.
Conceptualizing the organization as a system of integrated, co-dependent elements facilitates new solutions that help an organization achieve its goals. To do this, business leaders must view issues from multiple disciplinary and functional perspectives. Through an integrated, systems-thinking approach, students will learn to address unstructured problems, decision-making under complexity, and organizational change management and strategy. This course integrates contemporary research across the major functional areas of business, including: accounting, finance, human resources, international business, marketing, management information systems, risk and actual science, strategic management, and operations and supply management. Students will learn how to approach organizational issues in new ways and discover novel research opportunities by making connections across multiple disciplines.

Department Restrictions: Must be enrolled in one of the following Departments: Business:MA/MS/Ph.D Program.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Business Admin.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mgmt, Fox School, Sport Tourism Hospitality Mgt.

Repeatability: This course may be repeated for additional credit.
BA 9812. Innovation and Entrepreneurship in the New Economy. 3 Credit Hours.
In an increasingly competitive global market, leaders must develop new business models and approaches. However, building this competency within an organization can be challenging. This course examines how executives can apply best practices in innovation and entrepreneurship by designing novel products, services, processes, organizational structures, business models, and industry ecosystems. Special emphasis is placed on how executives can anticipate and shape global technological, economic, social, and political factors that facilitate innovation and entrepreneurship within an organizational context.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BA 9813. Problem Solving using Quantitative Research Methods. 3 Credit Hours.
Quantitative research applies statistical techniques to test new theory and hypotheses. This course teaches students how to investigate problems through the design and execution of quantitative research as it applies to experiments, surveys and the analysis of secondary data. Students will learn to apply and evaluate these methods through examples of theoretical and applied research papers that employ quantitative methods. Students will learn the fundamental statistical techniques to develop and test research hypotheses, such as the t-test, correlation analysis and regression. Students will prepare data for analysis and understand how to interpret the results.

Department Restrictions: Must be enrolled in one of the following Departments: Business:MA/MS/Ph.D Program.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Business Admin.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School, Sport Tourism Hospitality Mgt.

Repeatability: This course may be repeated for additional credit.

BA 9814. Advanced Quantitative Research Methods. 3 Credit Hours.
This course explores advanced concepts and topics in quantitative research methods. Students will learn to select and apply statistical techniques to new problems and data. It will cover analysis of variance and the design of experiments, multivariate regression, and logistic regression. It will also enable students to identify and address problems in real-world data sets, including: normality violations, multi-collinearity, and missing data.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

BA 9815. Problem Solving using Qualitative Research Methods. 3 Credit Hours.
Qualitative research is the exploration of phenomena in their natural setting that seeks to make sense of underlying mechanisms and processes. This course compares a variety of qualitative techniques, such as case studies, ethnography, action research, grounded theory building and content analysis. Students will review contemporary and classic studies that employ qualitative methods in both theoretical and applied contexts, providing examples of how to use each approach in practice. It will also cover interviewing and observation techniques, coding semi-structured and structured interview data, and building hypotheses based on qualitative data. The course weighs the advantages and disadvantages of different approaches to qualitative research, including positivist, interpretivist, and critical methods.

Department Restrictions: Must be enrolled in one of the following Departments: Business:MA/MS/Ph.D Program.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Business Admin.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School, Sport Tourism Hospitality Mgt.

Repeatability: This course may be repeated for additional credit.

BA 9816. Creation and Dissemination of Business Knowledge. 3 Credit Hours.
A fundamental tenet of evidence-based management is that firms will function more effectively if they adopt a theoretically-driven, methodologically-sound approach to decision-making. Building on the basic tenets of theory and knowledge development, this course explores the tools and techniques needed for creating and disseminating knowledge. Drawing on business research literature, students learn advanced issues in theory building, model validation and empirical testing. The course provides practical guidelines for building new theories that are informed by managerial practice and also extend current theoretical models. Participants are challenged to develop cross-disciplinary, evidence-based management practices through applied research that will effectively influence future management practice. Also covered is the process of preparing one’s work for publication and successfully navigating the peer review process. Students will study journal selection and how to craft a response to reviewers. These include hands-on application to each student’s individual program of research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
BA 9883. Directed Reading/Study. 3 Credit Hours.
Students will have four required research projects that focus on applying the concepts, theories and methods learned in the foundation and methods courses. The purpose of these projects is to provide students with a mentored, structured approach to developing the critical skills required to prepare their dissertation proposal, the dissertation itself and proceedings resulting from their work. Students will engage in independent research projects under the supervision of Executive DBA faculty during their coursework. At the end of each term, the research projects will be reviewed and assessed for their quality, relevance and potential impact. Students will be expected to present their work and provide feedback on the work of others in the program. The first-year research project (R1) focuses on developing a conceptual paper with a plan for data collection and analysis (summer of the first year). The second-year research project (R2) focuses on a preliminary research paper that includes pilot data analysis and results (fall semester of the second year). The third research project (R3) has a completed research paper as a deliverable that could be submitted to a conference or a journal (spring semester of the second year). The fourth research project (R4) is preparation for the dissertation proposal defense to take place early in the fall semester of the third year.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

BA 9890. Special Topics in Business Research. 3 Credit Hours.
This course will feature a rotating set of topics based on the cutting-edge research conducted by the Executive DBA faculty. Potential topics include executive leadership, emerging markets, social media, data analytics and design thinking.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

BA 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
Registration required each semester while preparing for the Preliminary examinations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

BA 9998. Pre-Dissertation Research. 1 to 6 Credit Hour.
Registration required each semester after Preliminary Examinations while researching the dissertation proposal.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

BA 9999. Dissertation Research. 1 to 6 Credit Hour.
Registration each semester required for students elevated to candidacy and undertaking dissertation research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.
Repeatability: This course may be repeated for additional credit.

Business Education (BSED)

Courses

BSED 5513. Methods of Teaching BCIT. 1 to 3 Credit Hour.
Primarily geared for teachers who will use the computer as an educational tool

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

BSED 5514. Cur Dev & Trends in BCIT. 3 Credit Hours.
Analysis of the literature on trends in business education as they relate to business and economic education

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Career and Technical Education (CTE)
Courses

CTE 5401. Current Problems in Career and Technical Education. 1 to 6 Credit Hour.
This seminar covers selected school and training topics, including workforce development, training, managing information systems, diversity issues, school-industry partnerships, and performance evaluation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CTE 5411. Evaluation in Career and Technical Education. 3 Credit Hours.
Students learn how to develop and use a variety of evaluation methods to monitor student academic and occupational achievement as well as teaching effectiveness. Special emphasis is placed on relating evaluations to occupational curricula and instruction. Students learn about standardized tests and other diagnostic tools frequently encountered and/or used by classroom teachers. Particular attention is given to adapting assessments to meet the needs of all students. Contemporary issues related to testing, grading, evaluation, and accountability are addressed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credits.

CTE 5423. Leadership in Career and Technical Education. 3 Credit Hours.
This course provides an overview of school leadership and the principles of leading in a career and technical education setting, examining them with specific reference to the roles of the administrative director and comprehensive supervisor. These particular roles are analyzed with an emphasis on inspiring staff to improve students' academic and technical achievement.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CTE 5426. Professionalism and Staff Development. 3 Credit Hours.
This course focuses on teacher professionalism and staff development and how schools can build capacity to maintain these systems. The course deals with the national standards for professional development; the process, content, and context of staff development; and the development of reflective practices.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CTE 5669. Project-Based Learning. 3 Credit Hours.
The course is designed to help educators plan and apply learning theory and principles of project-based learning to the development of business-related instruction in the elementary school classroom.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CTE 5887. Pedagogical Competence. 3 to 15 Credit Hours.
Prospective career and technical teachers/technical trainees are placed in supervised public school/industrial experiences and assisted in developing specialized teaching strategies through individualized instruction and seminar activities. (This constitutes an alternative delivery system equivalent to the professional requirement.)

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CTE 8324. Coordination Methods for Work-Based Learning. 3 Credit Hours.
The history, development, and operation of cooperative education programs are covered. Also explored are the development and promotion of a workplace-learning program, the development of workplace-learning partnerships, workplace-learning sites, safety considerations for students in the workplace, and connecting work-based and school-based learning.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CTE 8331. Instructional Methods for Work-Based Learning. 3 Credit Hours.
This course covers the role of the teacher-coordinator in conducting and teaching procedures and activities necessary for providing successful supervised field experiences for students in the workplace. Also covered are methods of establishing contact with students, employers, teachers, parents, and community leaders; career and technical student organizations; and students with special needs. The course also explores developing and understanding labor laws and other legal requirements affecting student workers/interns.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CTE 8501. Curriculum Development for Programs of Study in Career and Technical Education. 3 Credit Hours.
Students study and analyze curriculum theories and the practical application of a systems approach in the analysis, design, development, implementation, and evaluation of technical education and training programs. Students learn about back-to-front design, performance and standards-based education, standards-aligned curriculum systems, and curriculum frameworks associated with program articulation, including "programs of study."

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CTE 8507. The Role of Career and Technical Education in Workforce and Economic Development. 3 Credit Hours.
This course explores the range of activities covered by state and federal career and technical (vocational) education laws; career and technical education as an integral part of the public school and workforce development systems; and the development of a point of view regarding the role of career and technical education in economic development.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CTE 8521. Collaborative Processes for Effective Career and Technical Education Programs. 3 Credit Hours.
This course focuses on the role of collaboration with both internal and external stakeholders of the CTE enterprise, including relationships with staff, parents, business and industry, government, professional associations and media groups. Students will learn the importance of partnerships and will examine ways to expand and enhance these partnerships for the ultimate purpose of improving student performance. The course is taught in a context of ethical leadership and decision making.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CTE 8527. Program Planning, Evaluation, and Systems Alignment in Career and Technical Education. 3 Credit Hours.
Students study the factors used to determine the vocational training needs of labor market areas, including local industrial expansion, recession, unemployment, aging workforce, and emerging technologies. Students also consider the organization, academic and skills standards, curriculum and instruction alignment, physical facilities, post-secondary connections and articulation, and scope and sequence of career and technical education programs. The course also focuses on conducting formative and summative program evaluations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CTE 8528. Creating a Culture of Teaching and Learning in Career and Technical Education Programs. 3 Credit Hours.
This course is designed to prepare CTE leaders to empower and support professional staff to improve students' academic and technical performance. Candidates will learn how to implement clinical supervision, peer coaching, and apply formative and summative personnel evaluation methods in workforce education programs. In addition, school reform initiatives and best practices will be addressed that frame staff development as a system for continuous learning and improvement of the CTE curriculum and students' learning.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CTE 8589. Managing Resources and Data Driven Decision Making in Career and Technical Education. 3 Credit Hours.
CTE facilities are unique to education. They include industry-standard equipment and utilities that are not typically found in academic high schools. Prospective CTE leaders must understand and know how to apply systems to secure, maintain, and replace facility related items for technical curricula. These systems ensure the health and safety of students while providing the required resources to effectively prepare them for a variety of technical careers.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CTE 8690. Problems in CTE. 1 to 3 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CTE 8890. Special Topics/Problems in Career and Technical Education. 3 Credit Hours.
The course focuses on contemporary issues and/or problems in workforce education. Enrollment is limited to master's degree students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CTE 9389. Supervised Work Experience. 1 to 3 Credit Hour.
Technical work experience in business and industry designed for all fields of career and technical education.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CTE 9482. Directed Independent Study. 1 to 6 Credit Hour.
Problem-based topics related to vocational education or technical training are investigated.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CTE 9685. Internship in Career and Technical Education. 3 to 6 Credit Hours.
Credit is given for a supervised internship within a specified field of CTE/technical training to provide the student with leadership development experiences.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CTE 9885. Internship in Career and Technical Education. 3 to 12 Credit Hours.
This supervised internship in a CTE setting provides the student, who is a candidate for system leader, with education leadership experiences.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Chemistry (CHEM)

Courses

CHEM 5001. Advanced Inorganic Chemistry I. 3 Credit Hours.
Group theory and its applications to chemical systems. Molecular orbital theory and spectroscopy. Descriptive chemistry of transition metal and organometallic compounds.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CHEM 5005. Organometallic Chemistry. 3 Credit Hours.
A survey of the chemistry of organic compounds of the main and transition elements, with emphasis on their reactions and applications.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

CHEM 5102. Data Analysis and Evidence. 2 Credit Hours.
Forensic chemistry involves the forensic application of analytical chemistry theories, techniques and instrumentation to the analysis of controlled substances, fire debris evidence, explosives, and other trace evidence/chemical unknown materials. This course will cover those concepts relevant to the field of forensic chemistry including chain of custody, the theory and practical applications of the uncertainty of measurement and propagation of error. Students will also learn the classifications and unique physical and chemical characteristics of forensic chemistry evidence and investigate the physical and chemical characteristics of this evidence through the use of chemical, microscopic and instrumental techniques. The chemical characteristics of explosive materials as well as the analytical techniques used to analyze these samples will also be covered.

**Department Restrictions:** Must be enrolled in one of the following Departments: CST:Chemistry.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

CHEM 5103. Advanced Instrumental Methods. 3 Credit Hours.
Recent developments in electrochemical and electroanalytical techniques, including voltammetric and potentiostatic procedures and the basics of instrumental design. Applications to organic chemistry, trace analysis, chromatographic detectors, and electrokinetics discussed.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

CHEM 5107. Drug Analysis. 4 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

CHEM 5108. Investigative Chemistry. 4 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

CHEM 5201. Physical Methods in Organic Chemistry. 3 Credit Hours.
Principles and applications of important physical and spectroscopic methods: IR, UV, NMR, MS, ESR, ORD, and CD in structure determination.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

CHEM 5202. Organic Reaction Mechanisms. 3 Credit Hours.
This course is an introductory overview of organic structure and most common organic reaction mechanisms.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

CHEM 5205. Organic Syntheses. 3 Credit Hours.
Scope and limitations of modern synthetic methods, including silicon reagents, organometallic and radical chemistry.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

CHEM 5301. Quantum Chemistry. 3 Credit Hours.
Introduction to quantum mechanics and its application to chemical systems.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.
CHEM 5302. Statistical Thermodynamics. 3 Credit Hours.
The basic concept of statistical mechanical ensembles and their application.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CHEM 5304. Nanomaterials Chemistry and Physics. 3 Credit Hours.
This course will cover the key chemical/physical properties of nanomaterials as well as nanomaterials characterization and synthesis for graduate students. The goal of this class is to help students get familiar to the important concepts associated with the confined dimensionality in nanomaterials and apply these concepts to understand unique electronic/optical properties of nanomaterials and the thermodynamics/kinetics of forming nanomaterials. The course is organized with four modules: 1) Introduction to Nanoscience - Physical and Chemical Concepts, 2) Characterization of Materials at Nanoscale, 3) Fabrication of Nanostructures and Nanomaterials, and 4) Case Study of Specific Nanomaterials.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CHEM 5305. Chemical Kinetics. 3 Credit Hours.
A study of the dynamics of chemical reactions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CHEM 5358. Cellular/Molecular Neuroscience. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CHEM 5401. Biochemistry I. 3 Credit Hours.
A survey of the biological macromolecules (proteins, nucleic acids, carbohydrates, and lipids) correlating their structures with their chemical properties and biological functions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CHEM 5402. Chemical Biology. 3 Credit Hours.
This course will focus on the interactions between chemicals and biomolecules, with an eye on how to search, create, and modify molecules that can be either probes to understand, or therapeutic drugs to treat human diseases. Modern medicinal chemistry and biotechnologies will be covered to elucidate how chemistry can be used to perturb the biomolecules' structure and function, topics not typically studied in an undergraduate organic chemistry or biochemistry course. An advanced level of study in chemical biology can only be attained by a critical reading of scientific literature, and this course will consist of both lectures and student presentations of literature research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CHEM 5412. Structural Bioinformatics II. 3 Credit Hours.
This course provides an introduction to structural bioinformatics, with focus on understanding three dimensional structures of biological macromolecules. Topics covered include: an overview of macromolecular structure determination, introduction to molecular modeling theory and the application of computational modelling in structure based drug design. The course also offers practical training on the application of molecular modelling methods for understanding structural biology and in rational drug discovery.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
BIOL 5411|Minimum Grade of B-|May not be taken concurrently.
CHEM 5505. Advanced Polymer Structure and Properties. 3 Credit Hours.
Polymers are ubiquitous in many new (scaffolds for tissue engineering, hip replacements) and old (textiles, engineering resins, flocculants) applications, and are often used in composites with inorganic materials. In order to better understand the use and novel developments of polymers, this course will provide the fundamentals of synthesis, polymer structure/property relationships, and characterization methods.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CHEM 5701. Teaching of Chemistry. 0 to 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CHEM 5901. Responsibility and Ethics in Chemical Research. 1 Credit Hour.
The primary goal of this course is to educate graduate students in the ethical and responsible practices of scientific research. The course is designed to meet the requirements of both the NIH and NSF for training in responsible conduct of research (RCR). As an independent scientific researcher it is critical to have an understanding on what constitutes ethical scientific practices both in the laboratory and in professional interactions with colleagues. This course will be based on student-led presentations and case study discussions in order to understand the real world applications of these issues.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CHEM 8000. Special Topics in Inorganic Chemistry. 3 Credit Hours.
A survey of a topic chosen by the instructor. Topics could include bioinorganic chemistry, organometallic chemistry, solid state and materials chemistry, and catalysis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CHEM 8001. Leadership, Law and Ethics in Forensic Science. 3 Credit Hours.
This course will provide the students with an introduction to the American criminal justice system, explain the role of the forensic scientist in the criminal justice system, and discuss theoretical and practical applications of forensic science laboratory management. Students will learn successful leadership styles and discuss topics relating to ethical behavior, quality measures including quality control and quality assurance, communication and privacy issues relating to forensic science as well as resource management. Through discussion and analysis of the U.S. Constitution, the Pennsylvania Constitution, Federal (and State) Rules of Criminal Procedure, and Federal (and State) Rules of Evidence with particular emphasis on case law, students will develop a practical understanding of modern criminal jurisprudence. Special emphasis and consideration will be given to the ethical obligations of criminal justice practitioners, including judges, prosecutors, defense attorneys, law enforcement officers and expert witnesses.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Chemistry.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CHEM 8107. Advanced Forensic Chemistry. 3 Credit Hours.
Forensic chemistry involves the forensic application of analytical chemistry theories, techniques and instrumentation to the analysis of controlled substances, fire debris evidence, explosives, and other trace evidence/chemical unknown materials. This course will cover those concepts relevant to the field of forensic chemistry including chain of custody, the theory and practical applications of the uncertainty of measurement and propagation of error. Students will also learn the classifications and unique physical and chemical characteristics of forensic chemistry evidence and investigate the physical and chemical characteristics of this evidence through the use of chemical, microscopic and instrumental techniques. The chemical characteristics of explosive materials as well as the analytical techniques used to analyze these samples will also be covered.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Chemistry.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
CHEM 5102|Minimum Grade of B+|May not be taken concurrently.
CHEM 8200. Special Topics in Organic Chemistry. 3 Credit Hours.
Advanced lecture course; subject matter varies from semester to semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CHEM 8201. The Chemistry of Natural Products. 3 Credit Hours.
Biogenetic classification, classical and modern synthetic approaches to polyketides, steroids, terpenes, and alkaloids.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CHEM 8205. Heterocyclic Chemistry. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CHEM 8210. Special Topics in Organic Chemistry. 3 Credit Hours.
Advanced lecture course; subject matter varies from semester to semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CHEM 8300. Special Topics in Physical Chemistry. 3 Credit Hours.
Advanced lecture course, subject matter varies from semester to semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CHEM 8301. Molecular Spectroscopy. 3 Credit Hours.
Absorption, emission and scattering of light by molecular system. Discussion of basic principles and experimental techniques.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CHEM 8302. Computational Chemistry. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CHEM 8303. Modern Meth in Exp Chem. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CHEM 8310. Special Topics in Analytical Chemistry. 3 Credit Hours.
Advanced lecture course, subject matter varies from semester to semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CHEM 8400. Special Topics in Biochemistry. 3 Credit Hours.
Advanced lecture course; subject matter varies from semester to semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CHEM 8401. Bioinorganic Chemistry. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CHEM 8501. High Polymer Chemistry. 3 Credit Hours.
Introduction to the important theoretical and practical aspects of high polymer chemistry.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**Repeatability:** This course may not be repeated for additional credits.

CHEM 8601. Analytical Separations. 3 Credit Hours.
Theory and practice of modern separation methods with emphasis on chromatographic and electrophoretic techniques.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**Repeatability:** This course may not be repeated for additional credits.

CHEM 8985. Teaching in Higher Ed: Phys Sci. 1 to 3 Credit Hour.
Teaching in Higher Education: Physical Sciences. This course focuses on learning theory and the best teaching practices, with the aim of preparing students for effective higher education teaching.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**Repeatability:** This course may be repeated for additional credit.

CHEM 9300. Seminar in Physical Chemistry. 1 Credit Hour.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**Repeatability:** This course may be repeated for additional credit.

CHEM 9800. Seminar in Forensic Chemistry. 1 Credit Hour.
Wide-ranging introduction to key areas and “hot topics” in forensic science, as presented by a series of guest lectures by leading practitioners in the field.

**Department Restrictions:** Must be enrolled in one of the following Departments: CST:Chemistry.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**Repeatability:** This course may be repeated for additional credit.

CHEM 9900. Seminar. 2 Credit Hours.
Formal presentation of research topics by graduate students. Regular attendance required of all graduate students.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**Repeatability:** This course may be repeated for additional credit.

CHEM 9991. Master’s Research Projects. 1 to 6 Credit Hour.
Short-term, limited research project or laboratory project in the field. This course is not the capstone project course, nor can it be used for thesis based research. The course is for master’s students only, including PSM, MA or MS. This class will not confer full-time program status unless nine credits are taken.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**Repeatability:** This course may be repeated for additional credit.

CHEM 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
This course is required for students who are preparing for the preliminary or candidacy examination. Students should enroll after coursework is completed or when preparing for the candidacy exam until the time that the preliminary or candidacy examination is completed. This course will confer full-time status at the minimum credit hour registration limit of one credit. All students must complete a minimum of one credit of this course. Students must complete a total of 6 credit hours of 9994, 9998 and 9999.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**Repeatability:** This course may be repeated for additional credit.
CHEM 9995. Capstone Project. 1 to 6 Credit Hour.
Capstone project for master's students including students in PSM, MA or MS. This class will provide full-time status. Students in PSM programs need to register for at least one credit of this course to fulfill program requirements. Additional credits may be required for specific programs. This course will confer full-time status at the minimum credit hour registration limit of one credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Master of Science, Prof Science Masters.

Repeatability: This course may be repeated for additional credit.

CHEM 9996. Master's Thesis Research. 1 to 6 Credit Hour.
Course for master's thesis research. Only intended for students in thesis bearing master's programs. A minimum of one credit is required. This course will confer full-time status at the minimum credit hour registration limit of one credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CHEM 9998. Pre-Dissertation Research / Elevation to Candidacy. 1 to 6 Credit Hour.
This course is intended for students who are performing research prior to candidacy. Students can register for this course after required courses are completed. This course will confer full-time status at the minimum credit hour registration limit of one credit. Students must be registered for this course during the semester that they are to be elevated to candidacy examination. Students must complete a total of 6 credit hours of 9994, 9998 and 9999.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Chemistry.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Chemistry.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Science & Technology.

Repeatability: This course may be repeated for additional credit.

CHEM 9999. Dissertation Research. 1 to 6 Credit Hour.
The course is for Ph.D. students who have been elevated to candidacy. During the course of their candidacy students must complete a minimum of two credits of dissertation research. This course will confer full-time status at the minimum credit hour registration limit of one credit. Students must complete a total of 6 credit hours of 9994, 9998 and 9999.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.

City and Regional Planning (CTRP)

Courses

CTRP 5013. Planning History and Theory. 3 Credit Hours.
Coursework focuses on examining important trends in planning theory and placing them in a historic context. This approach facilitates an understanding of the relationship between the theoretical conceptualizations of urban form and the functional manifestations of those conceptualizations, which are key to relating planning theory to planning practice. The course strives to identify practicable as opposed to heuristic planning theory. These distinctions are extensively explored. A review of the contribution of “planning pioneers” provides a synthesis to contemporary planning problems and issues. A concluding examination of ecology and planning theory offers a direction for planning theory and practice in the 21st Century.

Department Restrictions: Must be enrolled in one of the following Departments: Tyler:Planning & Community Dev.
Cohort Restrictions: Must be enrolled in one of the following Cohorts: XMSCRP.

Repeatability: This course may not be repeated for additional credits.

CTRP 5014. Planning Politics and Administration. 3 Credit Hours.
This course outlines the political and administrative environment of planning, including the influences of pluralism and federalism on planning in the United States. It introduces students to various agencies and organizations that conduct or impact planning, including public agencies, authorities, consulting firms, and non-profit organizations. Coursework explores policy implementation, including legislation, regulation, negotiation, and incentives, and the role of organizations and planners as professionals with respect to the current literature on organizational theory and development.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CTRP 5113. Nonprofit Management. 3 Credit Hours.
The course provides an overview of management of nonprofit organizations, including issues pertinent for nonprofit managers and leaders faced with changing organizational environments. Most community development activities are centered within a nonprofit organization or work closely with these community-based organizations. Students are introduced to the major aspects of nonprofits and voluntary organizations that distinguish them from public and private organizations: mission/vision; legal definitions/IRS rulings; voluntary governance structures; and a social change agenda. Topics covered include the history and scope of the nonprofit sector, variations within the sector, contemporary theories of nonprofit enterprise, growth in the international nonprofit sector, management issues which pertain to nonprofits, financial management, accountability, human resources management, strategic planning, collaborative partnerships, leadership, advocacy, and the future of the sector.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CTRP 5157. Community-based Organizations in Planning. 3 Credit Hours.
Examines the forty year history of community-based organizations (CBOs) and the important role they play in the housing, economic and social development in low-income communities. CBOs strive to build community leadership and empower low-income people to take charge of their own future. Understanding the role of such organizations is crucial in being an effective planner. Profiles a select number of the over five hundred CBOs in Philadelphia to learn about land trusts, housing development, Neighborhood Advisory Committees, resident associations, service districts, tenant councils and faith-based programs. Field trips to a number of community-based organizations to supplement classroom discussions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CTRP 5251. Sustainable Food Systems Planning. 3 Credit Hours.
Planners are paying attention to the notion of food system planning: farm land preservation and environmental stewardship; economic development including distribution, processing, employment and globalization; and food security, involving access to affordable, healthy foods. There are also issues of public health, food cultures, consumer spending patterns, and education. This course explores all of these concerns. Guest speakers and field trips provide a focus on regionally based food systems initiatives. Course readings and lectures address work that is underway elsewhere in North America. Students develop an appreciation for the ways in which a food systems perspective can enrich community planning efforts and create more sustainable and vital places in which to live and flourish.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CTRP 5256. Sustainable Community Design and Development. 3 Credit Hours.
Introduction to the evolution, theory, and practice of planning for sustainable communities. Students evaluate recent conceptions of sustainable development, building an understanding of characteristics that define sustainable communities, implementation strategies, local-regional-global relationships, and constraints to achieving more sustainable communities. Recent climate change reports and policies are examined as well as their impacts on sustainable community planning and development in the United States. The course includes lectures, class discussion, guest lecturers, outside lectures, and case studies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CTRP 5313. Community Development Finance. 3 Credit Hours.
The course examines the history and practice of community development finance in the United States. Low-income communities face particular challenges in meeting their credit needs through the traditional financial sector. Over the past 100 years, various institutions have developed to both advocate for change and to cover this gap. The course explores strategies for developing assets for low-income families and low-income communities. Different types of community development finance projects are discussed, including affordable housing, charter schools, community facility, small business lending, and nonprofit real estate projects. The course concludes with an examination of continuing challenges to meet the depository and credit needs of low-income communities.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CTRP 5413. Planning Communications. 3 Credit Hours.
Planning in public, private, and non-profit organizations depends on effective communication among planners, employees of public agencies, elected officials, media representatives, and the public. The professional planner plays a key role in organizing, facilitating, and participating in conversations about the future of communities of all types. Strong communication skills are essential in most aspects of planners' work and are the focus of this course. Topics include the relationship between planning analysis and communication; interpersonal communication; and graphics, written, and public presentation skills.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CTRP 5455. Community Engagement and Empowerment. 3 Credit Hours.
This class explores the theory and practice of involving citizens in agency-led and community-based planning processes. Readings, class discussions, case studies, and guest lectures emphasize building knowledge and skills necessary to develop open and inclusive processes using a continuum of civic engagement practices such as community organizing, outreach and education, interactive tools and technologies, charrettes and full empowerment.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CTRP 5513. Planning Analysis. 3 Credit Hours.
This course introduces a set of analytical tools that are widely used in community and regional planning practice. The course explores both conceptual and operational understandings of a broad range of analytical methods and techniques. Students learn to obtain data; select and use the most appropriate analytical methods (with an emphasis on computer applications, such as Microsoft Excel); and present their results effectively. Topics covered include data sources and collection, application of statistics to planning practice, demographic models, population projections and forecasts, regional economic analysis, and other methods common to planning analysis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CTRP 5524. Spatial Analysis Techniques/Geographic Information Systems. 3 Credit Hours.
Introduction to basic principles and techniques of Geographic Information Systems (GIS), a computer-based tool using spatial (geographic) data to analyze and solve real-world problems. Applications are from community and regional planning and other related disciplines. Lab exercises emphasize spatial data collection, entry, storage, analysis, and output using the software "ArcGIS." Students are introduced to GIS datasets used by the Center for Sustainable Communities, a research center in the Department of Planning and Community Development. Some lab assignments are based on planning issues in Southeastern Pennsylvania.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CTRP 5525. Advanced Techniques in Geographic Information Systems (GIS). 3 Credit Hours.
This course explores ArcGIS extensions, including Spatial Analyst, 3D Analyst, Network Analyst, and Image Analyst, and their uses in the field of community and regional planning. It introduces data collection methods, using GPS and Aero-Triangulation; the GIS-based concepts and applications of land suitability analysis; and Planning Support Systems software (such as CommunityViz and Index) for land-use forecasting and planning. Students work on real-world environmental planning projects in a studio setting using local and regional data sets. Guest lectures are offered by GIS practitioners.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
CTRP 5524|Minimum Grade of C-|May not be taken concurrently
OR CRP 5524|Minimum Grade of C-|May not be taken concurrently.

CTRP 8013. Planning History and Theory. 3 Credit Hours.
Coursework focuses on examining important trends in planning theory and placing them in an historic context. This approach facilitates an understanding of the relationship between the theoretical conceptualizations of urban form and the functional manifestations of those conceptualizations, which are key to relating planning theory to planning practice. The course strives to identify practicable as opposed to heuristic planning theory. These distinctions are extensively explored. A review of the contribution of "planning pioneers" provides a synthesis to contemporary planning problems and issues. A concluding examination of ecology and planning theory offers a direction for planning theory and practice in the 21st Century.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
**CTRP 8016. Planning Law. 3 Credit Hours.**
Coursework addresses selected aspects of the field of law of planning and urban development, including constitutional, property, nuisance law, administrative law, state and local government law, and zoning and subdivision regulation. It seeks to impart an understanding of the nature of law and the structure and processes of the judicial system by using urban land-use control law as the vehicle. It explores the relationships between the courts and the legislatures, especially the municipal legislative bodies that have primary responsibility for regulating land development and land use. Students learn legal research methods and are exposed to the wealth of trenchantly written, up-to-date materials that are available on the web and in the law library.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 8056. Public Budgeting and Finance. 3 Credit Hours.**
Knowledge of budget concepts and financial management is required for the successful operation of government, nonprofit, and for-profit organizations. The course addresses the basics of public budgeting for those with little or no experience and presents more advanced concepts for those who have some experience in budgeting and finance. Discussion of the entire budget process, including budget formulation and execution, program development, cost and revenue estimation, internal controls and audits, budget strategies and tactics, capital budgeting and debt management. Uses case studies, in class discussions, and guest speakers involved in the development of state and local budgets to provide a broad understanding of the practical and political aspects of public budgeting.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 8114. Urban Form and Design. 3 Credit Hours.**
This course examines the many elements that contribute to the aesthetic and human quality of communities of all sizes. It analyzes the nature of public spaces, streets and boulevards, landscaping, water, materials, light, scale, mass, and time. The roles of unity, harmony, symbolism, and cultural values are explored. The course has both historical and current references. Students participate in design projects, visual design analyses, and presentations.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 8155. Ecological Planning and Development. 3 Credit Hours.**
The fundamentals of the ecological planning method developed by landscape architect and regional planner, Ian McHarg, establish a basis to plan and develop both individual projects and entire communities that can be enduring/sustainable. Students examine both theory and practice in the relationship between ecological planning and actual development. Case studies, field trips, and guest presenters highlight specific examples of the successful implementation of ecological planning by the private development sector.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 8156. Neighborhoods, Cities, and Regions. 3 Credit Hours.**
More than 80% of the U.S. population now lives in urbanized areas. This course examines the history of the development of urban (and suburban) form, together with some of the environmental, physical, social, and economic factors that created or influenced those forms. Emphasis is on the development of the European and North American city, from Athens to imperial Rome, to the 19th- and 20th-century industrial metropolis, and its suburbs. (Other great cities of the ancient world may be discussed.) The course looks at the late 20th-century unraveling of the urban fabric and the de-concentration of cities.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 8165. Placemaking: Revitalizing Urban Communities. 3 Credit Hours.**
The term placemaking, often used interchangeably with creative placemaking, refers to a particular approach to community building and revitalization that has gained popularity in recent years. Through readings, lectures, exercises, and tours students will explore placemaking practices focused on asset based, bottom up approaches that seek to enhance the social fabric while improving physical places. This includes local economic development and revitalization practices that value community identity as expressed in local cultural historic and natural resources, but also includes other types of practices that simply seek to create a sense of “place” in some otherwise under-used or ill-defined space. Students will assess place-making practices and identify opportunities for placemaking in Philadelphia’s neighborhoods.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.
CTRP 8166. Land-Use Planning. 3 Credit Hours.
At the heart and soul of community and regional planning is land use. How we use land and the institutional and legal basis by which we establish and implement land-use goals are key elements in how our communities and regions are shaped. This course examines the foundations of land-use planning, which begins with an understanding of attitudinal, value, and ethical perspectives of how land resources are used. The range of land-use implementation approaches - regulatory, fiscal, incentives, and public investment - is also evaluated. The course additionally discusses the importance of ecological planning and design as prospects for contemporary land-use planning to create sustainable communities and regions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CTRP 8175. Gentrification and Equitable Development. 3 Credit Hours.
With the recent revitalization of cities, gentrification has become a real, complex and highly contested issue that represents progress for some and displacement or its threat for others. This course investigates gentrification and interventions aimed at limiting its negative effects. Through analyzing academic literature, current events and case studies, we consider: the process, forms, agents and impacts (positive and negative) of gentrification; examine the roles of policy, planning and community development in the gentrification process; and investigate programs and strategies that practitioners could implement to foster equitable development.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CTRP 8213. Environmental Planning. 3 Credit Hours.
Environmental issues and concepts faced by planners and the methods used to address them are the focus of this course. It further applies principles of natural science disciplines to the analysis of man's physical environment and the synthesis of plans that respect and incorporate those principles. The constraints and opportunities presented by the natural and man-made physical environment evaluated in the context of planning at both site-specific and regional scales are discussed. The goal of the course is not to produce environmental scientists, but rather to make planners aware of the environmental questions that should be asked and of whom. Lectures, case studies, and roundtable discussions are utilized.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CTRP 8255. Sustainability in Suburban Communities. 3 Credit Hours.
The physical forms of suburban communities and the social and economic patterns that shape residents' lives make achieving sustainability in suburbia challenging and problematic. Distances between homes, businesses, and worksites are long; transportation choices are few; infrastructure needs are extensive and costly; and impacts on ecological systems can be severe. Many argue that higher-density, urban living holds our best promise for an environmentally sustainable future in the United States, but half of all Americans live in suburbia and finding sustainable solutions for them and their communities must be part of the solution. Lectures, readings, and discussions in this course address sustainability in suburban communities by covering the history of the American suburb and processes of suburbanization; architecture and housing; landscape and community design; transportation and infrastructure; built and natural environments and ecological systems; and planning, administration, and regionalism.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CTRP 8257. Environmental Policy. 3 Credit Hours.
This course identifies the complexities associated with environmental politics and management from both national and international perspectives. The first part of the course discusses the basics of natural environmental processes and the difficulties of environmental policy formulation and implementation including risk assessment, watershed resource management, and public lands management. The second part describes and evaluates command and control processes, primarily focusing on air, water, and solid waste abatement. The final part examines large-scale global issues such as climate change and sustainable development and assesses the implications of energy use and the future of environmental management.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CTRP 8266. Sustainable Business Practices. 3 Credit Hours.
Environmental issues and their impact on business, communities, institutions, and the general public are comprehensively explored. The course examines the need for companies to effectively manage environmental issues in light of increased public demand for businesses to take a stewardship role over natural resources and environmental protection. It provides students with a broad and practical understanding of environmental sustainability concepts, and examines how challenges associated with sustainable development are multifaceted, involving economic, social, and environmental concerns. The course explores how these concerns alter business strategies and practices and lead to new opportunities. Case studies and lectures are used to build technical proficiencies. Lectures are offered by guest experts. Note: Cross-listed with Strategic Management 5191.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CTRP 8267. Water Resources Planning and Management. 3 Credit Hours.
Water is one of the earth's most important resources. Without it we cannot survive. Yet its management is complicated and highly contentious. This course evaluates various aspects of water resources, including water quality, flooding, and water supply and allocation, and how global warming will influence the quality and quantity of future supplies. Various forms of management are evaluated, ranging from fragmented management to more integrated forms such as multi-jurisdictional river basin management and ecosystem management. Water resources planning and management is also evaluated from multiple perspectives: local, state, national and international. The course evaluates numerous case studies and includes guest speakers with national and international expertise.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CTRP 8276. Regional Development. 3 Credit Hours.
Coursework provides the fundamentals for understanding regional development and examines the theories that explain why cities and regions grow, as well as the spatial patterns of urban and regional development. In addition to theory, students are introduced to the key analytical methods that have been developed to characterize regional development patterns and predict future regional growth. By the end of the course, students have the requisite skills to complete a local development plan and have a clear understanding of the literature and tools of regional development.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CTRP 8355. Environmental Infrastructure Planning and Management. 3 Credit Hours.
Introduces students to the practice of planning and managing municipal and regional environmental infrastructure programs that typically fall under the realm of a local or county department of public works or environmental planning. Covers the historical development, governing regulations, current status and innovative trends with respect to comprehensive solid waste management, wastewater treatment, drinking water supply, stormwater management, district heating/cooling systems and green energy, and multi-purpose greenways. Infrastructure finance such as capital budget, operations and maintenance, and funding are discussed. Guest speakers present case studies to complement class discussions and student-lead case study research. Open to students from all disciplines.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CTRP 8455. Planning Processes and Project Management. 3 Credit Hours.
Emphasizes the integration of planning and project management and stresses the fundamentals of project management as essential for a successful planning process. Provides the student with an understanding of the framework of an effective planning process, while developing skills in project management. Topics include: creating a vision for the planning process; managing resources and costs; integrating interest groups into the planning process; measuring outcomes; and communicating results.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CTRP 8476. Collaborative Planning. 3 Credit Hours.
Students examine the theories, principles, and practices of collaborative planning with a special emphasis on resolving conflicts over land-use planning issues and planning for complex environmental systems. The course emphasizes a range of collaborative planning modes, including negotiation, facilitation, and partnerships. Students engage in a series of hands-on simulations involving communicating complex concepts and building consensus with the goal of developing student skills for effective leadership of collaborative planning and management endeavors. Note: Formerly, Planning Negotiation and Alternative Dispute Resolution.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
CTRP 8555. Internet and Digital Technologies for Community Engagement. 3 Credit Hours.
Emerging technologies are directly influencing the planning and management of our urban areas in very profound and pervasive ways. Planning and related professionals increasingly are adopting new technologies to develop plans, communicate ideas and concepts, and engage citizens in the decision making process. The course introduces many fundamental technology concepts, including e-Planning and e-Government; Cybercities; e-Commerce and Economic Development; Web 1.0, 2.0, 3.x, Web Conferencing Tools; Online Project Collaboration Methods; IT Project Management; Section 508 Accessibility; Planning in Virtual Worlds; Municipal Wireless Networks and Public Spaces; and Digital Divide. Through a series of labs and assignments, students gain hands-on experience with each of these technologies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CTRP 8655. Transportation Planning. 3 Credit Hours.
The course presents an overview of the history of transportation in the United States and the fundamentals of present-day transportation planning and policies. It explores the influences of urban form on modal choice; accessibility and mobility of various population subsets (such as the economically and physically disadvantaged); regional and local travel demand; and the operational efficiency of different types of transportation systems (transit, highways, bicycle, and pedestrian). Coursework covers the impact of transportation investments on land use and regional population growth, and on environmental, community, and economic sustainability. It introduces students to currently used transportation planning methodologies, legal requirements, and decision-making processes. By studying actual transportation projects, students develop a plan for an assigned project.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CTRP 8656. Integrated Transportation and Land-Use Planning: Context-Sensitive Design Solutions. 3 Credit Hours.
Context-sensitive design seeks to blend transportation functions with other human activities and land-use characteristics. Often transportation and land-use decisions have worked at cross-purposes due to the inconsistency of scales, the traditional focus of transportation project planning on functional and engineering concerns, and development decisions made without adequate regard to traffic impacts. This course covers basic operational and safety requirements of various transportation systems, with special emphasis on bicycle and pedestrian travel, and appropriate designs for different types of development and policy objectives, such as downtown revitalization or decreasing reliance on the automobile. The latter part of the course is devoted to a studio design project in which students apply design principles to solve a transportation and/or land-use problem.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CTRP 8657. Non-motorized Transportation Planning. 3 Credit Hours.
Transportation planning in the United States has long focused on improving conditions for motorized travel, primarily by personal cars and light duty trucks. The effects of an over-emphasis on motorized travel on energy consumption, traffic congestion, and the physical form of our communities, however, have led to the promotion of non-motorized transportation - that is, travel on foot and bicycle. This course is designed to develop an appreciation of the role of non-motorized transportation in the United States; to understand the conflicts and opportunities for compatibility between different modes of transportation; and to gain skills in planning for safer, more convenient, and more appealing walking and bicycling conditions in American cities and suburbs. Class sessions consist of a mix of lectures, discussions, and individual and group exercises.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CTRP 8666. Travel Demand Modeling. 3 Credit Hours.
This course provides an overview of regional transportation planning, emphasizing hands-on experience with travel demand modeling. It addresses the transportation management and planning process in support of policy development, environmental and system management, improvement programming, and impact analysis. The role of travel estimation is explored as it relates to the key stages of these undertakings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
CTRP 8655 Minimum Grade of C- May be taken concurrently.
CTRP 8755. Introduction to Emergency Management Planning. 3 Credit Hours.
This course provides a fundamental understanding of the emergency planning process, the phases of emergency management, and the roles and responsibilities of all parties involved. Students work in a classroom environment, interacting with others on various assignments, projects, and presentations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CTRP 8756. After the Disaster: Effective Planning for Continuity, Recovery and Restoration. 3 Credit Hours.
Provides the student with the skills necessary to develop a plan for continuing operation during and immediately following a disaster or emergency situation. Addresses the planning necessary to quickly recover and eventually restore operations to a normal status. Using various disaster and emergency scenarios, the concepts of command and control, communications protocols and decision making will be applied to the process of continuing and suspending operations. Assessment techniques, table top exercises, and guest lecturers will provide the student with hands-on experience in disaster recovery.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CTRP 8840. Topics in Community and Regional Planning. 1 to 3 Credit Hour.
Variable offerings are made from semester to semester on selected topics not part of the regular listing of courses. The topic can be in an area of specialization of a faculty member or an examination of a current development in the field. Note: A description of the current course offering can be obtained at the department office and in the schedule of classes. This course may be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CTRP 8850. Topics in Community and Regional Planning. 3 Credit Hours.
Variable offerings are made from semester to semester on selected topics not part of the regular listing of courses. The topic can be in an area of specialization of a faculty member or an examination of a current development in the field. Note: A description of the current course offering can be obtained at the department office and in the schedule of classes. This course may be repeated for credit. Past courses include Suburbia: Issues and Trends; Redevelopment and Revitalization; Environmentally Sensitive Development; Issues in Local and Regional Economic Development; Community-Based Organizations and Planning; Emergency Management Planning; Urban and Regional Development; Community-Based Organizations and Planning; and Planning Processes and Project Management.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CTRP 8860. Topics in Community and Regional Planning. 1 to 3 Credit Hour.
Variable offerings are made from semester to semester on selected topics not part of the regular listing of courses. The topic can be in an area of specialization of a faculty member or an examination of a current development in the field. Note: A description of the current course offering can be obtained at the department office and in the schedule of classes. This course may be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CTRP 8870. Special Topics. 1 to 3 Credit Hour.
Variable offerings are made from semester to semester on selected topics not part of the regular listing of courses. The topic can be in an area of specialization of a faculty member or an examination of a current development in the field. Note: A description of the current course offering can be obtained at the department office and in the schedule of classes. This course may be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
CTRP 8889. Planning Studio I. 3 Credit Hours.
The studio involves undertaking a planning project in cooperation with a local or regional client. Working in small groups, students synthesize the
knowledge gained from previous courses in the development of an integrated approach that is appropriate to their project. The groups prepare
professional-level plans and policy reports based on relevant data collection; site analysis; evaluation of location, market, transportation, environmental,
financial, and schedule opportunities and constraints; and the assessment of stakeholder interests.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(CTRP 5524|Minimum Grade of C-|May not be taken concurrently
OR CRP 5524|Minimum Grade of C-|May not be taken concurrently)
AND (CTRP 5513|Minimum Grade of C-|May not be taken concurrently
OR CRP 5513|Minimum Grade of C-|May not be taken concurrently
OR CRP 8513|Minimum Grade of C-|May not be taken concurrently)
AND (CTRP 5000 to 8888|Minimum Grade of C-|May not be taken concurrently
OR CRP 5000 to 8888|Minimum Grade of C-|May not be taken concurrently)

CTRP 9883. Directed Reading/Study. 1 to 3 Credit Hour.
Advanced reading/study tutorial is arranged between the student and a faculty member.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CTRP 9885. Internship in Planning. 3 or 6 Credit Hours.
Open only to matriculated students who have completed the majority of the Community and Regional Planning program or the City and Regional Planning program. Students who matriculated prior to Fall 2009 may opt for 3 s.h. of internship and 6 s.h. of thesis or project, or 6 s.h. of internship and 3 s.h. of thesis or project. Students who matriculated Fall 2009 or later may take only 3 s.h. of internship as an elective. Students are required to complete a supervised 180/360-hour internship in which the emphasis is on the acquisition and application of practical skills in planning. Internship placements are at public agencies, non-profit institutions, and private firms. Internships must be approved by the City and Regional Planning program coordinator prior to a start date. Internships require interim reports and must culminate in a report regarding the experience. Note: Students who matriculate prior to Fall 2009 and have had substantial professional experience may petition for a waiver of 3 s.h. for this requirement. If granted, the student will be required to enroll in another elective CTRP graduate course and complete CTRP 9995 for 6 s.h.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
CTRP 5000 to 9000|Minimum Grade of C-|May not be taken concurrently
OR CRP 5000 to 9000|Minimum Grade of C-|May not be taken concurrently.
CTRP 9889. Planning Studio. 6 Credit Hours.
The studio involves undertaking a planning project in cooperation with a local or regional client. Working in small groups, students synthesize the knowledge gained from previous courses in the development of an integrated approach that is appropriate to their project. The groups prepare professional-level plans and policy reports based on relevant data collection; site analysis; evaluation of location, market, transportation, environmental, financial, and schedule opportunities and constraints; and the assessment of stakeholder interests.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
(CTRP 5014|Minimum Grade of C-|May not be taken concurrently
OR CRP 5014|Minimum Grade of C-|May not be taken concurrently
OR CRP 8014|Minimum Grade of C-|May not be taken concurrently
AND (CTRP 5413|Minimum Grade of C-|May not be taken concurrently
OR CRP 5413|Minimum Grade of C-|May not be taken concurrently
OR CRP 8413|Minimum Grade of C-|May not be taken concurrently
AND (CTRP 5513|Minimum Grade of C-|May not be taken concurrently
OR CRP 5513|Minimum Grade of C-|May not be taken concurrently
OR CRP 8513|Minimum Grade of C-|May not be taken concurrently
AND (CTRP 8013|Minimum Grade of C-|May not be taken concurrently
AND (CTRP 8016|Minimum Grade of C-|May not be taken concurrently
AND (CTRP 8213|Minimum Grade of C-|May not be taken concurrently

CTRP 9995. Thesis in Planning. 1 to 6 Credit Hour.
Undertaking a master's thesis provides the student an opportunity to develop evidence of mastery of the field. Under the guidance and supervision of the course instructor and Thesis Committee, the student will develop an appropriate research question, methodology and process. The master's thesis is substantial in length and follows a knowledge-enhancement model, based on planning theory, methodology, or history. The thesis is subject to a public defense. Note: Open only to students matriculated in the MS in City and Regional Planning program who have completed the first full year equivalent of the master's program. Registration requires approval of the department chair. Students may register for one to six credits of CTRP 9995. This course may be repeated for credit, but no more than six credits of CTRP 9995 may be used as an elective for the MS in CTRP.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
CTRP 5000 to 9999|Minimum Grade of C-|May not be taken concurrently
OR CRP 5000 to 9999|Minimum Grade of C-|May not be taken concurrently.

Civil Engineering (CEE)

Courses

CEE 5048. Probability and Statistics in Engineering. 3 Credit Hours.
This course is designed to build a conceptual background in probability, statistics, and stochastic analysis. It prepares the graduate student for research in uncertainty analysis and stochastic models in engineering. It begins by building a solid integrated background on the subjects that conform uncertainty analysis in engineering: probability, statistics, and stochastic modeling. The theory is complemented with numerous exercises of application in engineering uncertainty analysis, and with computer simulations using modern computer algebra software, such as MAPLE. Students are gradually taken to more advanced subjects and eventually to the analysis of differential equations subject to random initial conditions, random forcing terms, and random parameters. Partial differential equations and nonlinear stochastic equations are treated.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5058. Probability Statistics in Engineering. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CEE 5110. Special Topics. 3 Credit Hours.
Special topics courses are developed to cover emerging issues or specialized content and they do not repeat material presented by regular semester courses.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CEE 5201. Transportation Systems Management. 3 Credit Hours.
This course covers cost-effective techniques for the rebuilding of deteriorated transportation systems; pavement management and traffic systems management; extensive use of advanced computer software packages.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5202. Transportation Engineering. 3 Credit Hours.
This course focuses on the principal modes of transportation, including highway, rail, and air; analysis of elements of transport technology; and transportation system development, planning, design, construction, and maintenance.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5203. Structural Design of Pavements. 3 Credit Hours.
This course covers basic characteristics of different pavement structures; various modes of failure and design of pavement structures; identification and analysis of stresses; strains and deflections in flexible and rigid pavements; computation of traffic loading and volume for the structural design of pavements; engineering properties of pavement materials; pavement performance and distress; and empirical and mechanistic-empirical approaches.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5211. Bridge Design. 3 Credit Hours.
The course covers bridge design in structural steel and reinforced concrete; application of AASHTO bridge design specifications; and analysis techniques for complex structures. Preliminary designs include investigating alternative structural systems and materials. Final designs include preparation of design calculations and sketches.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5212. Transportation Engineering Materials. 3 Credit Hours.
Topics include physical properties of asphalt, aggregates, portland cement, portland cement concrete, and their combinations; advanced techniques in material characterization in the lab and the field; material variability, sampling, and statistical techniques; and the impact of these properties on their characterization of the design, construction, rehabilitation, and management of transportation facilities, including portland cement concrete pavements with steel reinforcement; construction methodologies, recycling, and energy consideration; and application of the state-of-the-art computer software packages.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5221. Intelligent Transportation Systems. 3 Credit Hours.
Coverage embraces the multidimensional upgrades needed for highway and vehicles for developing intelligent transportation systems. Contributions from important related fields such as telecommunications, safety, management, urban and regional planning, and economics where they interface with transport are included. Several case studies constitute an integral part of the course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CEE 5231. Airport Engineering. 3 Credit Hours.
This course deals with the various aspects of airport engineering, planning, design and development of 21st century airports. The course covers airport master and system planning, airside layout, landside access design, passenger and cargo facilities, terminal design, drainage and pavement design.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5241. Pavement Management and Traffic Systems Management. 3 Credit Hours.
The course covers development of management methods for analysis, planning, design, construction, maintenance, and rehabilitation of pavements and traffic systems. The objective functions include creation of more efficient use of existing facilities through improved management and operation of vehicles and roadway.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5244. Introduction to Geosynthetics. 3 Credit Hours.
This course will enhance your critical understanding of Geosynthetic Materials used in civil engineering applications and develop the knowledge and skills required for designing and applying geosynthetic materials in civil engineering and environmental applications. Geosynthetics properties, testing of properties, design of geotextile, geogrids, geonets, and geomembranes for applications in separation, pavement design, embankment and retaining wall reinforcement, soil stabilization, filtration, drainage and liquid barrier, construction guidelines and case histories. The module will also develop critical understanding of the processes and materials used for the manufacture of geosynthetic materials.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5251. Pavement Rehabilitation and Maintenance. 3 Credit Hours.
The course covers fundamental behavior of materials used in building pavements. These materials include aggregate mixtures, asphalt binders and mixtures, and Portland cement concrete. The course covers methods of field construction and quality control of materials and their impact on long term performance. The course helps students understand the role of material properties in design of pavements including cost analysis. Students will learn testing methods, selection criteria, and standard specifications. Finally, the students will use accumulated knowledge through the course to understand strategies of pavement rehabilitation and maintenance. Principles of asset management will be introduced in the course to optimize maintenance and rehabilitation interventions for improving longevity.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5301. Construction Administration. 3 Credit Hours.
The course focuses on the engineering and construction industry; the basis of construction contracting; organizational structure and its functions; management structure and its functions; office administration, employment practices, and labor relations; organizational financing and accounting; and safety practices, risk management, and industrial insurance.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5302. Engineering Project Management. 3 Credit Hours.
This course provides an overview of the basic principles underlying all methods of project management, including project estimating, planning and scheduling, budgeting, cost accounting and cost control, project documentation, tracking and resource leveling. It also focuses on utilization of project management software packages for selected civil engineering projects; different types of projects; organizing the project management functions; setting up the project team; starting up and managing engineering projects; and ensuring the effective completion of the project on time, within budget, and meeting specifications.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CEE 5303. Construction Financial Management. 3 Credit Hours.
Coverage includes project development in construction, project budgeting and job costing approaches, cost management and financing alternatives, evaluation of financial and accounting objectives required with each project, forecasting cash needs and profit, and financial reporting procedures.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5312. Construction Equipment Management. 3 Credit Hours.
This course focuses on the concepts and theories of construction equipment operation, ownership costs, and their relationship to production systems; analysis of depreciation and fixed costs for equipment pricing on construction projects; selection and use of construction equipment; and equipment economics and financing.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5321. Geotechnical Engineering. 3 Credit Hours.
This course deals with soil testing, site investigation, design of shallow and deep foundations, earth retaining structures, and advanced topics in soil behavior and stability.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5411. Structural CADD Systems. 3 Credit Hours.
Topics include behavior and analysis of simple and complex structures subjected to dynamic loads; using exact and approximate analytical techniques; determination of free response and force response using modal superposition and numerical integration; review of the characteristics of earthquakes with consideration of site and structural parameters on the response of buildings; and application of analysis and design procedures required to achieve earthquake-resistant structures in accordance with building code specifications.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5421. Structural Dynamics. 3 Credit Hours.
This design course addresses developments in theory and practice of earthquake engineering. It familiarizes students with new techniques of analysis and seismic design. Students learn advanced concepts in applied mathematics, especially structural dynamics and application of seismic building and bridge codes. Familiarity with differential equations, matrix methods of analysis, non-linear equations, eigenvalue solutions, and finite elements modeling are required. Students are instructed to learn and apply new software for dynamic analysis. Laboratory work includes the study of experimental models such as for bridge piers (frames, walls, and hammerhead columns) using an MTS machine for applying dynamic loads.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5431. Behavior and Design of Steel Structures. 3 Credit Hours.
The course’s design objective is to develop within the student an awareness of the fundamentals required to produce safe, functional, and economical steel structures, which are in conformance with national building codes and industry specifications and standards. This is an advanced course in structural engineering intended to develop professional-level competence in the design of steel-framed buildings, utilizing the most up-to-date design code.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5432. Structural Mechanics. 3 Credit Hours.
Topics include principles of mechanics and stress and strain at a point; analysis of statically determinate and indeterminate structures with static and moving loads using energy methods and force and deformation methods; beam theory, shear center, unsymmetrical bending, introduction to numerical methods, and computer techniques; and introduction to the use of the GT-STRUDAL and ANSYS computer programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CEE 5433. Behavior and Design of Masonry Structures. 3 Credit Hours.
Coverage includes the fundamental principles of masonry behavior and design. In this course, up-to-date information about material testing, research methodology in the area of masonry structures, and codes are presented. The first part of the course presents the fundamental behavior and characteristics of masonry materials and masonry assemblages, the deformational characteristics of brick and block masonry, performance of load-bearing wall systems and shear wall system, the design of unreinforced and reinforced masonry elements, and the construction details of masonry structures. The second part of the course concentrates on the seismic resistance of masonry structures, prestressed masonry, and applied design of low and high-rise buildings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5434. Behavior and Design of Reinforced Concrete Structures. 3 Credit Hours.
Behavior, analysis, and design of advanced reinforced concrete structures and components including columns subjected to flexure in one or two direction, slender columns, floor systems including two-way slabs, and analysis, design application using modern software.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5445. Earthquake Engineering and Seismic Design. 3 Credit Hours.
Basic knowledge of and introduction to earthquake engineering, seismic design and analysis methods, and seismic design based on International Building Code (IBC), ASCE 7 - Minimum Design Loads for buildings and other structures, introduction of material specific design requirement.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5531. Life Cycle Assessment and Carbon Footprinting. 3 Credit Hours.
Life Cycle Assessment (LCA) examines the environmental impacts of products, processes and policies beyond their direct production. Cradle to grave analysis in this manner provides the full picture that is needed to understand the true impact. This course provides an overview of Life Cycle Assessment principles and practice in relation to environmental and energy concerns. Regulatory and economic decision support tools and software analysis packages will be included. The course is structured such that students will start an LCA from the beginning of the course and progress on it as topics are covered.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Civil Engineering, Electrical Engineering, Mechanical Engineering.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5621. Engineering Hydrology. 3 Credit Hours.
Quantifying water flow in watersheds is a crucial step in the design of environmental facilities, such as drinking water treatment plants, and in delineating floodplains. This course deals with the water cycle over watersheds by addressing the motion of water masses in the atmosphere and in surface and subsurface systems. Students who successfully pass this class are able to deal with most hydrology problems treated in the industry sector.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5622. Fate of Pollutants in Subsurface Environments. 3 Credit Hours.
This course focuses on integrated chemical, physical, and microbiological principles of contaminant fate and transport processes necessary in the use of engineered approaches toward selecting and implementing subsurface cleanup options. It also covers abiotic processes, biotic processes, empirical models, and vulnerability mapping.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CEE 5623. Contaminant Dynamics in Urban Streams. 3 Credit Hours.
This course will focus on environmental systems near the air:water and water:sediment interfaces. These systems are by definition boundary or edge systems and are therefore exceptionally important to aquatic ecosystem functioning. After briefly discussing the air:water interface in rivers and lakes, the course will focus on the water:sediment interface. It is here that steep gradients in chemical concentration can be found and significant nutrient cycling occurs. In addition, studies have shown that significant ecosystem productivity and respiration occurs within the bed sediments of flowing water. The course will discuss the concept of transient storage and hyporheic exchange; issues surrounding modeling of transient storage and hyporheic exchange; phosphorus and nitrogen biogeochemistry within the hyporheic zone; and biotic/abiotic nutrient cycling.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CEE 5631. Environmental Hydrology. 3 Credit Hours.
Topics include the physics of surface and subsurface circulation and storage of water and the transport of contaminants in watersheds, soils, aquifers, rivers, the ocean, and the atmosphere, as well as the laws and equations that govern the recharge, flow, storage, and discharge of water in natural environments. Emphasis is given to qualitative analysis and quantitative evaluation methods of the different hydrologic processes with potential applications in surface and groundwater resources engineering, and environmental analysis. Analytical and numerical procedures to solve the arising equations are presented, along with the most commonly used models to solve water resources problems. Also studied are engineering methods for the sustainable use of water resources; engineering methods for the containment and treatment of surface and groundwater pollution; and the restoration of aquifers.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CEE 5641. Urban Streams and Stormwater Management. 3 Credit Hours.
Stormwater management has become a significant issue in recent years. In the past, the typical thinking was "get it out of my town," which resulted in downstream communities suffering the brunt of poor or inadequate management. In fact, only the rate of runoff was addressed, not the volume nor the quality of that runoff. In urban areas, the volume of runoff increases significantly due to additional impervious cover (e.g., pavement and rooftops), and urban stormwater runoff causes water quality degradation due to excess amounts of nutrients, metals, bacteria, and sediment. This course addresses the impact of improperly controlled runoff on urban streams and how the rate, volume, and quality of urban stormwater runoff can be properly controlled through appropriate Best Management Practice (BMP) implementation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CEE 5701. Physical Principals of Environmental Systems. 3 Credit Hours.
Basic principles of process engineering as they relate to pollution control are studied, including heat and mass transfer; mixing, chemical, and biological reactions; and reaction and kinetics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CEE 5702. Chemical Principles of Environmental Systems. 3 Credit Hours.
This course focuses on the essential chemical principles necessary to understand the nature of commonly occurring pollution problems and engineering approaches to their solutions; thermodynamics, chemical equilibria, acid-base chemistry, carbonate system, Redox chemistry, and adsorption/desorption phenomena.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CEE 5703. Mathematical Modeling. 3 Credit Hours.
This introductory graduate course focuses on numerical modeling of engineering systems. It covers standard mathematical techniques, such as interpolation, numerical integration, numerical solutions of ordinary and partial differential equations, parameter estimation, and optimization. Students will have to use an algorithmic programming language, such as Matlab, Fortran, or C++.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
CEE 5711. Air Pollution Control. 3 Credit Hours.
Topics include theory and principles of the design and operation of the major categories of air pollution control equipment, and an introduction to dispersion modeling. An extensive design problem is a major course component.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CEE 5721. Weather Monitoring and Forecasting. 3 Credit Hours.
This online course will offer a basic understanding of measurements of the atmosphere used for weather analysis and forecasting. Data from instruments such as weather balloons, radar, lightning mapping arrays, and satellites will be included. Special emphasis will be on interpreting satellite imagery and use in weather forecasting and warnings. Students will have the opportunity to learn to interpret real-time data online, and to make their own weather forecasts. The course will be taught primarily online, though one or two on-campus meetings may be required during the semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CEE 5731. Solid Wastes Engineering. 3 Credit Hours.
Coverage includes engineering principles of solid waste generation, characterization, collection and transport, separation, source reduction and recycling, and physical chemical and biological treatment strategies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CEE 5761. Environmental Chemistry. 3 Credit Hours.
This is an advanced course focusing on examination of processes that affect the behavior and fate of anthropogenic organic contaminants in aquatic environments. The lectures will begin with intermolecular interactions and thermodynamic principles governing the kinetics of some of the important chemical and physiochemical transformation reactions of organic contaminants. From this class, students will learn to predict chemical properties and to apply the knowledge of chemical properties and transformation reactions to assess the environmental fate of organic contaminants.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CEE 5762. Environmental Organic Chemistry. 3 Credit Hours.
This is an advanced course focusing on examination of processes that affect the behavior and fate of anthropogenic organic contaminants in aquatic environments. The lectures will focus on intermolecular interactions and thermodynamic principles governing the kinetics of some of the important chemical and physiochemical transformation reactions of organic contaminants.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CEE 5771. Chemistry for Environmentally Sustainable Engineering. 3 Credit Hours.
This course is a survey of environmental chemistry as it relates to the development of environmentally sustainable engineered systems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CEE 5772. Sustainable Development and Industrial Ecology. 3 Credit Hours.
As an introduction to the concepts of industrial ecology and sustainability, the course focuses on an interdisciplinary framework for the design and operation of industrial systems as living systems interdependent with natural systems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
CEE 5773. Sustainability Aspects of Water Supply and Wastewater Treatment. 3 Credit Hours.
Major environmental, economic and social trends are influencing the application of sustainability principles within the engineering profession. This course will examine the sustainability principles that will transform future engineering practice regarding drinking water supply and the treatment of wastewater. The term, wastewater, will be replaced by one more representative of the fact that ‘wastewater’ is in fact a largely untapped source of raw materials. It is in the areas of energy recovery, small molecule harvesting, and the water energy nexus where the next generation of environmental engineers will have a major impact on meeting societal needs regarding the provision of adequate drinking water as well as industrial requirements for this increasingly scarce resource. The course will introduce the underlying principles of sustainability directly relevant to meeting this need. Case studies will evaluate the above mentioned principles and the applicable areas of energy, chemical intermediates, and reclamation of previously used water, with a focus on dealing with emerging microconstituents in the water environment.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5774. Membrane Separation in Wastewater Treatment. 3 Credit Hours.
The course describes in detail membrane separation technology for a wide range of applications including water treatment and desalination. The course covers: global water shortages and need for membrane technology, microfiltration, ultrafiltration, nanofiltration and reverse osmosis membrane processes and current applications in water treatment, operational and energy issues, limitations, fouling and membranes processes coupled with biological treatment. The course is valuable as a prerequisite to more advanced research in environmental engineering, as a technical education to stimulate graduate students' interest in environmental sustainability, and as an introduction to environmental constraints that are increasingly important to other engineering disciplines.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5792. Biological Principles of Environmental Systems. 3 Credit Hours.
Applications of biological processes in environmental engineering are historic and eminently modern, from traditional ones like activated sludge and anaerobic digestion to emerging applications like detoxification of hazardous chemicals and biofiltration of drinking water. This course is designed to identify the biological principles essential for the understanding and designing of biological processes used for environmental protection and improvement. While many biological processes are being employed and developed by environmental engineers, there is no place in the standard civil engineering curriculum for detailed discussion on the underlying principles and their applications. This course emphasizes the comprehension of theoretical concepts and their application in a variety of situations. It covers the fundamental biological principles by their practical applications in engineered and natural environments.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5793. Environmental Biotechnology. 3 Credit Hours.
Biotechnology plays a central role in environmental science and engineering, including wastewater treatment, pathogen control, and biodegradation. The objective of the course is to provide environmental engineers and scientists with advanced concepts and quantitative tools that are necessary for understanding environmental processes and designing environmental protection systems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5794. Advanced Biological Wastewater Treatment. 3 Credit Hours.
Biological processes play a central role in wastewater treatment and are used in every wastewater treatment plant to remove organic compounds, nutrients, and other compounds from the water before discharging it back to the environment. The objective of the course is to provide environmental engineers and scientists with advanced concepts and quantitative tools necessary for understanding environmental processes and designing environmental treatment systems related to wastewater including advanced aerobic and anaerobic processes. The course integrates the use of microbiological principles into engineering wastewater treatment process. The course will provide a better understanding of interesting and complex environmental topics related to sustainable environmental remediation and protection. The course is valuable as a prerequisite to more advanced research in environmental engineering, as a technical education to stimulate graduate students' interest in environmental sustainability, and as an introduction to environmental constraints that are increasingly important to other engineering disciplines.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CEE 5795. Aquatic Toxicology in Environmental Engineering. 3 Credit Hours.
This course provides an introduction to the basic concepts of toxicology necessary to understand the effects of contaminants in the water environment. Specific topics include sources and classes on aquatic contaminants, environmental chemistry that influences behavior in the aquatic environment, the disposition and metabolism of these substances that affect their toxicity, and the physiological response of exposure in aquatic species and humans. The course will provide an overview of aquatic toxicity testing methods and application of toxicity data in the risk assessment of aquatic exposures to emerging contaminants, such as pesticides, pharmaceuticals, and natural products. Case studies will cover historical and contemporary examples of contaminant-driven effects.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5799. Environmental Engineering. 3 Credit Hours.
This course focuses on the generation, transport, effects, and control of environmental pollution within and across media, as well as problem analysis and control design. Theoretical development is augmented with applications of state-of-the-art software packages. Students complete a term project.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5811. Advanced Soil Mechanics. 3 Credit Hours.
Advanced concepts related to behavior of soil as an engineering material. Topics include consolidation magnitude and time rate, evaluation of secondary compression, mitigation of consolidation of settlements, shear strength of soils and other geologic materials, principles of critical state soil mechanics, and normalization of undrained shear strength.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5821. Foundation Engineering. 3 Credit Hours.
Principles of foundation engineering and design. Topics include soil stress distributions, bearing capacity of shallow (footings, mats) and deep foundations (driven piles, drilled shafts), tolerable settlements, construction techniques, and field quality control.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5822. Earth Retaining Systems. 3 Credit Hours.
Principles related to design of earth retaining systems and stability of earth slopes. Topics include lateral earth pressure theory, temporary and permanent retaining structures, in-situ reinforcement, and braced evacuations. Shear strength of cohesive and granular soils and slope stability analysis using limited equilibrium, design charts and numerical methods.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 5823. Geotechnical Earthquake Engineering. 3 Credit Hours.
An introduction to seismology and earthquake hazards in geotechnical engineering. Topics include plate tectonics and earthquake faulting, strong ground motions, dynamic soil properties, and characterization of design ground motions based on deterministic and probabilistic seismic hazard analysis. Analysis of earthquake-induced ground failures, seismic design of earth retaining systems and slopes, and effects of soil-structure interaction.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 8302. Advanced Project Management. 3 Credit Hours.
This course covers analysis of project control, job budgeting and costing, safety and risk management, bidding strategies and management, construction information management, and case studies of construction projects and company profiles.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CEE 8701. Advanced Physical/Chemical Treatment Processes. 3 Credit Hours.
There are numerous sites in the environment where surface water, ground water or soil is contaminated with toxic chemicals. In addition, many industrial wastewater and air emissions contain toxic chemicals which required treatment. Due to the chemical toxicity, we rely on physical and chemical processes for the decontamination of the fluid stream. Some of the commonly used treatment technologies are carbon absorption, air stripping and scrubbing. Of late, advanced oxidations processes have been examined and implemented as well. These processes are also used to produce high quality drinking water. The course deals with the analysis and design of some commonly used advanced physical/chemical processes for treatment of contaminated water and air. This course complements, and builds upon the fundamental science discussed in other courses in the curriculum on physical and chemical principles. In this course, emphasis will be placed on understanding the basic science, and the engineering design principles. Treatment of water, wastewater and air using processes such as air stripping, scrubbing, carbon absorption and advanced oxidation processes will be discussed, and design of the treatment systems will be conducted.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 8702. Advanced Chemical Principles of Environmental Systems. 3 Credit Hours.
This is an advanced course focusing on examination of processes that affect the behavior and fate of anthropogenic organic contaminants in aquatic environments. The lectures will focus on intermolecular interactions and thermodynamic principles governing the kinetics of some of the important chemical and physiochemical transformation reactions of organic contaminants.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 8703. Computer Modeling of Environmental Transport. 3 Credit Hours.
Topics include theory and computer modeling of transport and diffusion within and across media; and application of models to problems of air, water, and soil pollution with case studies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 8751. Water and Wastewater Systems Design. 3 Credit Hours.
This course covers the design of water distribution and sewage handling facilities, including sewers, pumping stations, seepage beds, septic tanks, spray irrigation, and natural treatment systems, such as overload and swamp treatment.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CEE 9182. Independent Study I. 3 Credit Hours.
Special study in a particular aspect of engineering under the direct supervision of a graduate faculty member. May be taken once by MS/MSE students and once by Ph.D. students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CEE 9282. Independent Study II. 3 Credit Hours.
Special study in a particular aspect of engineering under the direct supervision of a graduate faculty member. May be taken once by Ph.D. students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CEE 9991. Directed Research. 1 to 6 Credit Hour.
Under the guidance of a faculty member, the student conducts independent research on a selected topic in engineering.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
CEE 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
This course is intended for Ph.D. students who have completed their coursework but who have not yet passed both the Ph.D. Preliminary Examination.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CEE 9995. Project. 1 to 3 Credit Hour.
A project is assigned with the approval of the Civil and Environmental Engineering Graduate Committee and conducted under the supervision of a graduate faculty advisor. An oral presentation in an open seminar and a written report are required to complete the independent project. Projects related to industrial applications are encouraged. For non-thesis students only.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CEE 9996. Thesis. 1 to 3 Credit Hour.
Master's thesis. May be taken twice.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CEE 9998. Pre-Dissertation Research. 1 to 6 Credit Hour.
This course is intended for Ph.D. students who have passed both the Preliminary and Qualifying Examinations but who have not been elevated to candidacy.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CEE 9999. Dissertation Research. 1 to 6 Credit Hour.
This course is intended only for those students who have achieved Ph.D. Candidacy status. A minimum of 6 semester hours is required for graduation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.

Clinical Sciences and Health Informatics (CSHI)

Courses

CSHI 5201. Clinical Data and Analytics. 3 Credit Hours.
This course is designed to train students in the fundamentals of manipulating and conducting analyses of clinical data. Basic statistical principles and big data analytics will be discussed briefly, though the main focus of this course is understanding and working with “raw” clinical and administrative data sources to develop structured data sets suitable for analysis by more advanced techniques. Students will gain insight into the unique idiosyncrasies of the healthcare setting that impact the interpretation of analyses of clinical data. This class will explore in detail an anonymized patient data set including demographics, clinical encounters, diagnoses, medications, and laboratory results. The class will analyze clinical data sets with special focus on medication management, patient adherence, healthcare disparities, trends in health utilization, disease management, and quality measurement. Challenging issues in dealing with “dirty data” will be addressed. The course will also explore the impact of data modeling decisions and clinical ontology choices on the conclusions that can be drawn from clinical analytics. Through the course, students will learn the many assumptions that are incorporated into even seemingly straightforward queries, and the impact of these assumptions on the interpretation of results. Students also will be able to test the generalizability of their knowledge through analyses of additional publicly available clinical data sets.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CSHI 5202. Applications of Data Science to Clinical Medicine and Medical Research. 2 Credit Hours.
Data science, at the intersection of statistics and computer science, provides cutting edge tools for analyzing large data sets to provide predictive and causal models. These tools have been used extensively in the fields of econometrics and advertising (e.g. Google and Facebook); the application of data science to medicine is in its infancy, however, with the increasing availability of large clinical data sets, the opportunity to mine these sets for information has never been greater. While software engineers and applied mathematicians have the skills to use and develop these tools, they lack the content expertise needed to apply this knowledge to medicine. The purpose of this course is to provide graduate student/researchers in biomedical sciences and clinical research staff an opportunity to develop sufficient skills in modern data science to carry out research using large databases. It is assumed that the student has no training beyond introductory courses in statistics and/or epidemiology; no significant programming experience is required.

Field of Study Restrictions: May not be enrolled in one of the following Fields of study: Health Informatics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

College of Public Health & School of Social Work (CHP)
Courses
CHP 5001. Grad Research I. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Communication Management (CMGT)
Courses
CMGT 5001. Communicating Organizational Leadership. 3 Credit Hours.
This course focuses on reaching your leadership potential by assessing personal leadership styles and strengthening them through effective communication. You will understand how subtleties in communication and relationship management may have a huge impact on how an organization is run, defined and perceived. We will examine the forms of power and influence and how to become a trusted advisor with senior executives. This course is designed to help you shape a better future for yourself and the communities you serve.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CMGT 5002. Leadership in Crises and Conflict Management. 3 Credit Hours.
Crisis and conflict can sharpen the thinking of your teammates, spark creativity and galvanize a virtual dispersed team. Or it can leave teammates speechless, defensive, squabbling and discouraged. Your leadership can make the difference. This course will show you how to step in, reach out and take charge of contentious issues, whether they surface in live meetings, e-mail volleys or teleconferences. It will equip you to surface the "real issues" that need to be faced and resolved, before they create a crisis. It will show you how to bridge cultural, personality, age, gender and professional differences to get the best of each other's thinking. And do all of this in a way that increases your credibility and advances your career.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CMGT 5003. Leading Diverse Teams. 3 Credit Hours.
This program consists of 7 sessions designed to prepare individuals to both lead with pragmatic skills and, in addition, develop a theoretical understanding of the cultural, social, and communication dynamics at play within a highly diverse teamwork environment. The program will provide a rigorous theoretical framework for understanding how to work with a dynamic and diverse cross section of people who are brought together with specific skills and expertise to design and implement major organizational initiatives. Further, participants will be exposed to specific organizing structures that are used, including employees working together in multi-function, cross-geography and cross time zone teams.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
CMGT 5004. Cross-Cultural Leadership. 3 Credit Hours.
This course takes a communication approach to addressing the challenges and opportunities created by local and global leaders in fostering cross-cultural perspectives: providing a framework for looking at culture and leadership from a communication perspective; looking at the role of leadership in developing the needed competencies among organizational members for successful cross-cultural communication; and, proposing strategies for developing and maintaining cross-cultural communications for successful global undertakings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CMGT 5101. Conflict Management Processes in the Workplace. 3 Credit Hours.
This course provides a communication perspective on major third party intervention processes that are involved in organizational and workplace dispute systems and conflict management. Specifically, the course focuses on looking at the discursive processes that create meaning and resolve conflict through a third party involvement in ongoing conflict. Third party interventions for interest-based, rights-based and power-based approaches to dispute resolution are included. Specific attention is given to interest-based intervention processes including facilitated negotiation, conflict coaching, mediation, and facilitation. For these processes narrative theory foundations of these interventions are emphasized.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CMGT 5102. Designing Workplace Dispute Systems. 3 Credit Hours.
This course introduces the theory and research on designing dispute resolution systems for complex organizations and the role of the conflict specialist in designing and assessing these systems. The course includes an analysis of organizational conflict dynamics so that dispute systems are designed to fit the workplace context and the conflict challenges in that workplace. Public sector and private sector organizations are considered, with emphasis on dispute systems for US organizations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CMGT 8101. Communication Management Research Methods. 3 Credit Hours.
This course is designed to introduce you to communication research, common social science research methodologies, and concepts of statistical literacy. You will learn how to formulate research questions and hypotheses, select and use appropriate research methods, and analyze and interpret empirical research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CMGT 8103. Organizational Communication. 3 Credit Hours.
An organization is only as effective as its communication. Poor communication dynamics impact everyone within an organization, from the Chief Executive Officer (CEO) to the evening maintenance staff. This course will approach organizational communication from three lenses: Power, networks of association, and ethical standards. It will offer an overview of a diverse range of communicative acts engaged within an organization at the individual, dyadic (i.e. two people), small group, and meso (i.e. organizational) levels. Students will also focus on how communication is enacted within and between these levels, and how these dynamics impact an organization achieving its goals. The digital, social, and mobile communication revolutions have not only created new opportunities for an organization to improve its communication effectiveness, but present a variety of challenges as well. This course will expose students to the risks and rewards provided by emerging technologies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CMGT 8105. Social Responsibility in Corporations and Not-for-Profit Organizations. 3 Credit Hours.
Corporate Social Responsibility (CSR) refers to a company's commitment to allocate resources to benefit society and the environment. The contributions may come in the form of financial support, employee time or socially beneficial business practices. At the heart of the matter are competing loyalties. Companies may have loyalties to their communities and the natural environment, but they must also be loyal to their shareholders and employees who rely on them to remain profitable. Ethically balancing loyalties in a company's relationships with publics as diverse as environmentalists, government agencies, unions, employees, stockholders, consumers and critics and advocates is a significant responsibility for public relations practitioners, and can have long-term impact on a company's financial performance, employee moral and productivity, and image, identity and reputation. This course introduces students to theories behind the concept of corporate social responsibility, and involves an examination of whether organizations should expand their focus from serving stockholders to also considering the impact of the firm's activities on diverse stakeholders. Practicing CSR requires a corporation meld business goals with societal expectations. To do so means addressing complex questions such as: What obligations do businesses have to the societies in which they operate? Can the interests of corporations and their outside stakeholders be aligned, or are they in inherent conflict? This course examines these and other questions without prescribing simple solutions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CMGT 8106. Communication Theory for Professionals. 3 Credit Hours.
This course introduces students to the concepts and principles of significant theories in the field of communication. The theories covered in this class are specifically chosen to enhance a student's understanding of the contemporary professional workplace experience. This course focuses on the social contexts and social dynamics that shape the modern organization. These contexts and social dynamics include interpersonal, organizational, group communication, mass media as well as persuasion, culture, and social media. An emphasis is placed on integrating these theories into the student's daily communication practices, areas of interest, and/or professional development.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CMGT 8109. Final Project. 1 Credit Hour.
In this final project, each student will draw upon what s/he has learned in the M.S. in Communication Management program and apply it to a real-world situation. The final project will utilize specific skills, information, and concepts to solve a critical communication problem (structural and/or procedural) affecting an organization's ability to communicate efficiently or effectively at internal and/or external levels. In solving a problem, your strategic management plan needs to account for organizational employees, stakeholders, and customers. The format is a 20 minute video-recorded PowerPoint oral presentation to be submitted to the Department of Communication and Social Influence project evaluation committee.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Communication Sciences and Disorders (CSCD)

Courses

CSCD 5411. Psycholinguistics. 3 Credit Hours.
This course presents information about the processing and use of language including language acquisition, lexical retrieval, syntactic parsing, and language production in children and adults with normal and disordered communication systems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CSCD 5501. Modern Linguistics I - Syntax. 3 Credit Hours.
Scientific investigation of grammatical structure in language is the subject of this course. Data from English and other languages are used to study phrase structure, empty categories, movement, etc.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CSCD 5502. Phonology I. 3 Credit Hours.
This course concerns the nature of sound systems in human language. Students investigate data from a variety of languages and language families.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
CSCD 5505. Issues in Linguistics. 3 Credit Hours.
This course critically investigates major intellectual trends in the recent history of linguistics and their relationship to contemporary issues in philosophy, psychology, and anthropology.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CSCD 5521. Foundations in Child Language Disorders. 3 Credit Hours.
This course reviews theory, research and clinical issues concerning disorders of language in young children. Major categories of language disorder such as emotional disturbance, mental retardation, hearing loss, and specific language impairment are considered. Treatment and assessment techniques are reviewed and evaluated.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Spch Lang Hearing Science.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
CSCD 3301|Minimum Grade of C|May not be taken concurrently.

CSCD 5522. Foundations and Management in Phonological Disorders. 3 Credit Hours.
This course presents information and experiences to prepare students to assess and treat individuals with phonological disorders.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Spch Lang Hearing Science.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(CSCD 2209|Minimum Grade of C|May not be taken concurrently
AND CSCD 3233|Minimum Grade of C|May not be taken concurrently
AND CSCD 3301|Minimum Grade of C|May not be taken concurrently)

CSCD 5524. Foundations and Management of Motor Speech Disorders. 3 Credit Hours.
This course covers assessment, diagnosis, and management of motor speech disorders such as dysarthria and apraxia of speech in children and adults.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Spch Lang Hearing Science.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
CSCD 5522|Minimum Grade of C|May not be taken concurrently.

CSCD 5525. Foundations and Management in Fluency. 3 Credit Hours.
This course surveys the characteristics and theories on the nature of stuttering and reviews the principles and practices of assessment and intervention strategies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
CSCD 3233|Minimum Grade of C|May not be taken concurrently.
CSCD 5527. Foundations and Rehabilitation of Language and Cognitive Disorders in Aphasia. 3 Credit Hours.
This course provides an overview of acquired neurogenic language disorders and the ways in which these disorders have historically been described and explained. Approaches to diagnosis and treatment of adult language disorders and the evolution from neuroanatomical to cognitive and social models are discussed. The course begins with a review of the etiology and neuroanatomy underlying aphasic syndromes. The classical, neuroanatomical view of acquired language disorder is described, followed by an overview of syndrome classification. This is followed by a detailed review of cognitive-psycholinguistic models of language and communication disorders as well as the life participation approach to rehabilitation of communication disorders. The remainder of the course provides a review of specific language disorders associated with neurological etiologies (especially stroke-based aphasia), their effects on comprehension and production of oral and written language and specific intervention approaches. The course also offers a review of current research that focuses on impairments of cognitive processes that support language processing such as short-term memory (STM) and executive processing.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Spch Lang Hearing Science.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Pre-requisites:
(CSCD 3235|Minimum Grade of C|May not be taken concurrently)
AND (CSCD 2219|Minimum Grade of C|May not be taken concurrently)

CSCD 5528. Voice Disorders: Theory and Analysis. 3 Credit Hours.
This course acquaints the student with the symptomatology and disorder complexes related to phonation and with the philosophies and methods used in the treatment of voice disorders, including cleft palate and alaryngeal voice.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Spch Lang Hearing Science.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Pre-requisites:
(CSCD 3233|Minimum Grade of C|May not be taken concurrently
AND CSCD 3235|Minimum Grade of C|May not be taken concurrently)

CSCD 5529. Case Studies. 1 Credit Hour.
This seminar patterns itself on the Grand Rounds format used in hospitals in which a clinician presents information about a patient/client to a group of peers. The course is structured to provide interdisciplinary interactions because so many of the patients/clients we work with have multiple problems, and solutions are usually interdisciplinary in nature.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Pre-requisites:
CSCD 4301|Minimum Grade of C|May not be taken concurrently.

CSCD 5531. Applications in Audiology. 1 Credit Hour.
Practical labwork with audiometric equipment, test procedures, administration interpretation, and principles of case management and report writing.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Spch Lang Hearing Science.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Pre-requisites:
CSCD 4301|Minimum Grade of C|May not be taken concurrently.

CSCD 5532. Foundations and Management in Hearing Disorders. 3 Credit Hours.
This course reviews basic communication sciences and their role in the development of (re)habilitative strategies for use with both adults and children with hearing impairment.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Pre-requisites:
CSCD 4301|Minimum Grade of C|May not be taken concurrently.
CSCD 5533. Principles of Audiology. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CSCD 5534. American Sign Language I. 3 Credit Hours.

This introductory course provides the necessary skills for basic communication in American Sign Language (ASL). The relationship between manual and oral systems and the implications of deafness on communication are considered.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CSCD 5634. American Sign Language II. 3 Credit Hours.

This course continues the basic introduction to American Sign Language (ASL) through exploration of the language used by Deaf people in America, including the syntax, grammar, and vocabulary necessary in ASL. In addition various aspects of Deaf culture will also be discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
CSCD 5534 (Minimum Grade of C) May not be taken concurrently.

CSCD 5729. Language and Deafness. 3 Credit Hours.

This introduction to deaf studies explores the linguistic structure of American Sign Language, how modality of production-perception shapes language organization (comparisons of signed and spoken languages), deaf culture, deafness and minority cultures, deafness and child development, issues and options in deaf education, deafness in old age.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CSCD 5730. Topics in Speech, Language and Hearing. 1 to 3 Credit Hour.

Special topics in the area of Speech Language Pathology which change from semester to semester are presented. Topics and instructors for a specific semester are announced by the department and posted on the CSCD Department's listserv and web site.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CSCD 8147. Basic Practicum in Audiology. 1 Credit Hour.

Basic practicum in audiology at Temple University Speech and Language Center or one of the field placements with emphasis on basic audiologic testing and interpretation.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Spch Lang Hearing Science.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(CSCD 5531 (Minimum Grade of C) May not be taken concurrently
AND CSCD 5532 (Minimum Grade of C) May not be taken concurrently)

CSCD 8187. Basic Practicum in Diagnostic Processes. 1 to 3 Credit Hour.

This course introduces assessment of speech-language disorder, emphasizing assessment tools, procedures, rationales, and interpretation.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Spch Lang Hearing Science.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
CSCD 4396 (Minimum Grade of C) May not be taken concurrently.
CSCD 8287. Basic Practicum in Therapy Processes. 1 to 3 Credit Hour.
This is an introduction to remediation of speech-language disorders, emphasizing therapy methodologies and techniques, procedures, and rationales based on evidence-based practice, and analysis and interpretation of therapy outcomes.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Spch Lang Hearing Science.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
CSCD 4396|Minimum Grade of C|May not be taken concurrently.

CSCD 8601. Advanced Syntax. 3 Credit Hours.
This course studies recent advances in syntactic theory, focusing on the tension between universal grammar and the properties of particular languages.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CSCD 8721. Foundations and Management in Augmentative and Alternative Communication. 1 Credit Hour.
This course provides information on the identification of individuals who would benefit from Augmentative and Alternative Communication, on assessment of functional communication needs across environments, and on current regulations and documentation to obtain funding for a speech-generating device.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Spch Lang Hearing Science.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CSCD 8722. Foundations and Management in Dysphagia. 3 Credit Hours.
An overview of swallowing processes and disorders specific to the adult and pediatric populations. Assessment and treatment will be discussed.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Spch Lang Hearing Science.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
CSCD 3233|Minimum Grade of C|May not be taken concurrently.

CSCD 8723. Seminar in Speech Language Hearing. 1 to 3 Credit Hour.
This course provides students with in-depth and advanced information and experiences in a variety of topics in Speech, Language, Hearing. Students will review the foundation of anatomy, physiology or function of speech, language or hearing, its etiologies, and have hands on practice with professions in the field. Topics change from semester to semester and are presented in an intensive seminar format over a weekend (Friday half day and Saturday all day).

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CSCD 8725. Disorders of Articulation and Phonology: Special Populations. 2 Credit Hours.
This course presents information and experiences to prepare the speech and language specialist to assess, diagnose and treat persons with articulation disorders associated with cleft palate, apraxia, dysarthria and oral myofunctional disorders.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CSCD 8726. Management of Child Language Disorders. 3 Credit Hours.
This course presents information and specific skills to prepare the speech and language specialist to function in the educational setting in a variety of roles.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Spch Lang Hearing Science.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
CSCD 5521|Minimum Grade of C|May not be taken concurrently.

CSCD 8727. Written Language Development and Disorders. 2 Credit Hours.
This course focuses on the developmental processes of written language acquisition and written language disorders (dyslexia). Special attention to phonological awareness and the cognitive processes underlying this awareness.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Spch Lang Hearing Science.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(CSCD 5521|Minimum Grade of C|May not be taken concurrently
AND CSCD 5522|Minimum Grade of C|May not be taken concurrently
AND CSCD 8726|Minimum Grade of C|May not be taken concurrently)

CSCD 8728. Voice Disorders: Spec Pop. 2 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CSCD 8729. Neurocognitive Language Disorders. 3 Credit Hours.
This course will provide a broad introduction to neurocognitive deficits of language in dementia, traumatic brain injury, and right hemisphere damage. We will review neural substrates of human memory and executive functioning and examine how brain damage compromises language and cognition. We will examine assessments of language and memory and cover contemporary theories of neuropsychological rehabilitation.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Spch Lang Hearing Science.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
CSCD 5527|Minimum Grade of C|May not be taken concurrently.

CSCD 8738. Proj in Spch Lang Hear. 1 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CSCD 8824. Assessment and Treatment of Diverse Populations. 2 Credit Hours.
This course offers concentrated study of language development and disorders in culturally and linguistically diverse populations. Less biased assessment and intervention approaches are discussed.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Spch Lang Hearing Science.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CSCD 8830. Seminar In CSD. 1 Credit Hour.
This course focuses on preparing students to work with children from birth through six years in an interdisciplinary environment.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Spch Lang Hearing Science.
Class Restrictions: May not be enrolled in one of the following Classes: Graduate 0 to 17 Credits.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
CSCD 9087. Practicum in Hearing. 1 Credit Hour.
This basic-level practicum exposes students to the problems and therapeutic measures experienced by and available for hearing impaired individuals from childhood through adulthood in various habilitative/rehabilitative settings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CSCD 9187. Advanced Practicum in Voice. 1 Credit Hour.
This advanced-level practicum at a field affiliation or at Temple University Speech and Hearing Center (stuttering and voice disorders) focuses on in-depth diagnosis and treatment of a specific disordered population, e.g., L.D., M.R., post-CVA, stuttering, voice, and hearing impairment.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Spch Lang Hearing Science.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
CSCD 5528|Minimum Grade of C|May not be taken concurrently.

CSCD 9287. Advanced Practicum in Fluency. 1 Credit Hour.
This advanced-level practicum offers an in-depth focus on assessing and treating persons who stutter.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Spch Lang Hearing Science.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
CSCD 5525|Minimum Grade of C|May not be taken concurrently.

CSCD 9387. Advanced Field Practicum in Speech Language Pathology - Child. 3 Credit Hours.
This advanced-level practicum at a field affiliation focuses on in-depth diagnosis and treatment of communication and/or swallowing disorders in a specific disordered child population, i.e., SLL, L.D., M.R., stuttering, voice, hearing impairment, etc. On-site for three days or more.

Department Restrictions: Must be enrolled in one of the following Departments: CPH:Communication Science.
Field of Study Restrictions: Must be enrolled in one of the following Majors: Spch Lang Hearing Science.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
CSCD 8726|Minimum Grade of C|May not be taken concurrently.

CSCD 9487. Advanced Field Practicum in Speech Language Pathology - Adult. 3 Credit Hours.
Advanced level practicum at a field affiliation with focus on in-depth diagnoses and treatment of communication and/or swallowing disorders in a specific disordered adult population, e.g., L.D., M.R., post-CVA, stuttering, voice, and hearing impairment. The practicum takes place on-site for three days or more.

Department Restrictions: Must be enrolled in one of the following Departments: CPH:Communication Science.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Spch Lang Hearing Science.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
(CSCD 5527|Minimum Grade of C|May not be taken concurrently)
AND (CSCD 8729|Minimum Grade of C|May not be taken concurrently)

CSCD 9582. Independent Study - Communication Sciences. 1 to 6 Credit Hour.
Qualified students are permitted to conduct investigations and/or in-depth study under supervision of department faculty.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
CSCD 9587. Advanced Practicum in Aphasia. 2 Credit Hours.
This advanced-level practicum focuses on in-depth assessment and treatment of persons with aphasia and/or cognitive-linguistic deficits.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Spch Lang Hearing Science.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Co-requisites: CSCD 5527.
Repeatability: This course may be repeated for additional credit.
Pre-requisites: 
CSCD 4396|Minimum Grade of C|May not be taken concurrently.

CSCD 9980. Dissertation Seminar. 1 to 6 Credit Hour.
Current topics in speech-language-hearing research are explored.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

CSCD 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
This course guides study for exams preliminary to a dissertation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

CSCD 9996. Thesis Seminar. 1 to 6 Credit Hour.
The preparation of a master's thesis is the goal of this course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

CSCD 9998. Pre-Dissertation Research. 1 to 6 Credit Hour.
Development of a dissertation proposal is undertaken. Registration is required each semester after preliminary examination while a student is researching the dissertation proposal.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

CSCD 9999. Dissertation Research. 1 to 6 Credit Hour.
The completion of a dissertation project is the goal of this course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.
Repeatability: This course may be repeated for additional credit.

Computer and Information Science (CIS)

Courses
CIS 5001. Comp-Based Appl Prog. 3 Credit Hours.
The course emphasizes component-based application programming using the Microsoft Visual Studio Integrated Development Environment (IDE). Students will learn (and practice using) the VB .NET programming language, object-oriented software design techniques, and the principles of good user interface design. Topics include building quality software, including user interfaces to databases (using ADO.NET), sequential files, and graphics tools. Object-oriented concepts such as inheritance, polymorphism, static and dynamic binding, and interface (abstract class) components will be covered. The use of ASP.NET for client-server systems development is also elaborated. Note: Graduate credit will not apply for CIS MS/PHD programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
CIS 5002. Database Design & Programming. 3 Credit Hours.
This course provides an in-depth understanding of the modeling, design and implementation of database systems. Students develop an appreciation of the role of data, files and databases in information systems, gain an understanding of database development activities as part of the System Development Life Cycle (SDLC), and become familiar with data modeling concepts. Students are expected to be able to create databases and pose complex SQL queries of relational databases using Oracle and Microsoft Access. Topics include the relational model, E-R and Class Diagrams, normalization, advanced SQL, Oracle Enterprise system transaction processing, concurrency control, and recovery. Also covered are aspects of database administration, data integrity, security and authorization, stored procedures and triggers, the embedding of SQL in procedural languages and scripting languages, multi-tiered architectures, middleware, ODBC web-based databases, and web application integration. Students work in teams to implement large scale information system using a DBMS. CASE tools are used for data modeling. Note: Graduate credit will not apply for CIS MS/PHD programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5003. Networking & Operating Systems. 3 Credit Hours.
This course covers the essentials of operating systems and computer networks. Topics include: the processor, data and program representation, computer memory systems, software system support for I/O including support for networking, and a thorough introduction to the TCP/IP protocol suite. Note: Graduate credit will not apply for CIS MS/PHD programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5011. Programming and Data Structure. 3 Credit Hours.
Preparatory course for CIS graduate students who have an insufficient background in data structures, and need a stronger foundation before taking the required core course, Programming Techniques 5511 (formerly 8511). Note: Graduate credit will not apply for CIS MS/PHD programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5012. System Software and Operating Systems. 3 Credit Hours.
Preparatory course for CIS graduate students who have an insufficient background in operating systems, and need a stronger foundation before taking the required core course, Operating Systems 5512. Note: Graduate credit will not apply for CIS MS/PHD programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5013. Discrete Structure of Computer Science. 3 Credit Hours.
Preparatory course for CIS graduate students who have an insufficient background in discrete structures, and need a stronger foundation before taking the required core course, Automata & Formal Languages 5513. Note: Graduate credit will not apply for CIS MS/PHD programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5015. Scripting for Sciences and Business. 3 Credit Hours.
Focus on three scripting languages and multiple operating environments for scientific computing and for business, practical scientific computing projects, and integration of numerical computation with experimental results.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5016. Data Structures and Objects. 3 Credit Hours.
Data structures are the fundamental building blocks for organizing data. This course teaches how to build data structures and what can be done with them, as well as fundamental object oriented concepts. Topics include object oriented programming, lists, stacks, queues, trees, heaps, hash tables, graphs, sorting, and recursion. Note: Students may not receive credit for both CIS 2168 and CIS 5016. This is an MS/IST course. No credit for graduate CS programs without approval from CIS department.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CIS 5017. Operating Systems and Architecture. 3 Credit Hours.
This course provides an introduction to computer architecture and operating systems concepts to students without a background in computer systems. The objectives are to introduce the basic concepts for understanding and evaluating operating systems and the most important computer architecture issues impacting operating system design, implementation and selection. Note: Students may not receive credit for both CIS 2229 and CIS 5017. This is an MS/IST course. No credit for graduate CS programs without approval from CIS department.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5105. IT Process Management. 3 Credit Hours.
An introduction to essential techniques for successfully creating, organizing and managing IT projects. The course provides the foundation for more advanced studies in process management and software engineering. Enterprise-wide requirements, long-range planning and managing all aspects of the development process will be emphasized. The course will stress the use of appropriate software tools and process modeling throughout the development lifecycle. Quality assurance techniques are introduced at the outset to guide IT processes and decision making. Note: This is an MS/IST course. No credit for Graduate CS programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5106. System Development Processes. 3 Credit Hours.
Methods and tools for the technical development of IT systems are presented and used in case projects. The course follows the normal development lifecycle, starting with the recognition and justification of the need for either a new system or an upgrade to an existing system. It then proceeds through analysis, specification, design, implementation, testing (quality assurance), client training and turnover, and maintenance. The importance of each development stage will be taught within the framework of systems reliability, effectiveness, security, scalability, and development cost. Note: This is an MS/IST course. No credit for Graduate CS programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5107. Comp Systems Security & Privacy. 3 Credit Hours.
Computer systems security and information privacy has become a critical area of computer science development and research. This course involves an analysis of the technical difficulties of producing secure computer information systems that provide guaranteed controlled sharing and privacy. Emphasis is on software modeling and design to better ensure the protection of resources (including data and programs) from accidental or malicious modification, destruction, or disclosure. Current systems and methods will be examined and critiqued. The possible certification of such systems will also be investigated. Note: This is an MS/IST course. No credit for Graduate CS programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5108. Emerging Technologies. 3 Credit Hours.
The purpose of this course is to provide students with an understanding of maturing and emerging technologies and their likely impact on the networked information paradigm and enterprise management. Both hardware and software technologies will be covered. Students will be introduced to advanced software tools that demonstrate how agency enterprises make use of vast information flows and interconnectivity. Note: This is an MS/IST course. No credit for Graduate CS programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5208. Knowledge Management. 3 Credit Hours.
Principles of knowledge management (KM) and their use in locating, evaluating, disseminating, and using information and knowledge. Application of these principles and techniques. Knowledge management incorporates data acquisition, information integrity, and management of knowledge and is crucial to everyone working in any field where information is stored, processed, and used. It places a premium on an IT-intensive organization to invest, cultivate, and fully utilize the intellect and knowledge of all staff. Note: This is an MS/IST course. No credit for Graduate CS programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CIS 5210. Seminar in Information Science and Technology. 3 Credit Hours.
An intermediate level graduate special topics course in current and emerging developments in information systems and technology. Note: This is a MS/IST course. No credit for Graduate CS programs. This course is repeatable for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CIS 5274. Software Quality Assurance and Testing. 3 Credit Hours.
Software quality assurance consists of a means of monitoring the software engineering processes and methods used to ensure quality. The overarching goal of this class is to develop practical skills to help achieve software quality. The main objectives of this class are to understand the quality assurance process and to learn how to use testing techniques to achieve software quality. Students will learn 1) fundamental concepts in software testing, including software testing objectives, process, criteria, strategies, and methods; 2) various software testing techniques, including automated testing techniques, to support various levels of software testing: unit, integration, regression, and systems testing; 3) techniques and skills on how to use modern software testing tools to support software testing projects; 4) how to plan a test project, design test cases and data, conduct testing operations, manage software problems and defects, and generate a testing report; and 5) basic techniques in usability, performance, and security testing. Note: Students may not receive credit for both CIS 3374 and CIS 5274. This is a MS/IST course. No credit for Graduate CS programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5275. Software Project Management. 3 Credit Hours.
Project management knowledge and skills are critical to the success of every Information Technology project. This course will use IT project case studies to examine basic components of time, scope and resources within the project management processes defined by the Project Management Institute. At the completion of this course, students will be able to create project plans for software development projects as well as for IT infrastructure projects. They will know how to manage a team, how to write effective status reports, and make compelling presentations to management. This course exposes students to practical examples and tools that are used in typical IT projects in industry today. Note: Students may not receive credit for both CIS 3775 and CIS 5275. This is an MS/IST course. No credit for Graduate CS programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5301. Advanced Database Management Systems. 3 Credit Hours.
This course provides an in-depth understanding of the modeling, design and implementation of database systems. Topics include the relational model, E-R Diagramming and Class Diagrams, normalization, advanced SQL, Oracle Enterprise system transaction processing, concurrency control, and recovery. Also covered are aspects of database administration, security and authorization, stored procedures and triggers, the embedding of SQL in procedural languages and scripting languages, multi-tiered architectures, middleware, ODBC web-based databases, and web application integration. Students work in teams to implement large scale information system using a DBMS. CASE tools are used for data modeling. Note: This is an MS/IST course. No credit for Graduate CS programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5303. Usability Engineering. 3 Credit Hours.
This course focuses on the principles of usability engineering to design effective interfaces. In parallel with functional specification development, usability engineering identifies the usability specifications of the system, which includes information and interface design. In some modern day information systems, usability can be paramount and require as much or more effort and programming as functional requirements, i.e., information systems may provide relevant functionality, but if the system is not easy to learn and use, it may fail. Using theories and principles from software engineering and psychology, students learn to analyze usability requirements to improve user interface development. Note: Students may not receive credit for both CIS 3603 and CIS 5303. This is an MS/IST course. No credit for Graduate CS programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CIS 5304. Network Technologies. 3 Credit Hours.
Focuses on the design, construction and use of modern networks and inter-networks, including Internet, intranet, firewalls, VPN, e-mail, and wireless technologies. Prepares students to successfully create and operate modern secure networks. Key concepts and technologies include LAN design and construction, Internet architecture, internetworking (with an emphasis on the Internet), WAN connectivity, firewalls, Application Layer protocols, virtual private networks, wireless and network operation in real-world environments. Note: This is an MS/IST course. No credit for Graduate CS programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5306. Software Engineering. 3 Credit Hours.
A project-based course focusing on current methodologies employed in software design and development. The core material covers the key components of software engineering, including requirements analysis, specification development, detailed design, program development, quality control (verification and validation), configuration management, testing, and post-development maintenance. Emerging software development techniques - security engineering, service-oriented architecture (SOA), and aspect-oriented development are also introduced. Note: This is an MS/IST course. No credit for Graduate CS programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5405. Introduction to Digital Forensics. 3 Credit Hours.
This course is a broad introduction to the field of Digital Forensics. It covers various fundamental topics necessary for digital forensics investigation. The course begins with foundations of electronic evidence including cyber-crime laws, the 4th amendment, compliance and requirements, collection and handling, analysis, and reporting. The course also covers fundamentals of file systems with specific details pertaining to Microsoft FAT file systems. Students will learn two important forensics techniques - file recovery and file carving - among other things. Finally, forensics artifacts relevant to Windows Systems and Networks are discussed with relevant lab activities and students are also introduced to Antiforensics. Hands-on lab activities familiarize students with several relevant investigation techniques and the use of open source forensics tools. Students who have completed an equivalent course at Temple or another institution will take an elective as recommended by the program advisor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
CIS 5003|Minimum Grade of C|May not be taken concurrently.

CIS 5410. Advanced Seminar in Information Science and Technology. 3 Credit Hours.
An advanced level graduate special topics course in current and emerging developments in the field of information systems and technology. Note: This is an MS/IST course. No credit for Graduate CS programs. This course is repeatable for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CIS 5415. Ethical Hacking and Intrusion Forensics. 3 Credit Hours.
This class will introduce students to the field of hacking with the primary focus being the difference between White-hat Hacking (a.k.a Ethical Hacking) and Black-hat Hacking. The course will enable students to understand how to use hacking techniques to perform a hack within legal confines. The course will focus on both technical and social aspects of security, ranging from cryptography and biometrics to risk mitigation and disaster recovery aspects of organizational security. Of specific focus will be the following broad concepts - Reconnaissance, Scanning, enumeration, and Sniffing and Evasion. Based on the ethical concepts built during the first half of the semester, students will learn the process involved with forensics investigations of intrusion attack.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(CIS 5003|Minimum Grade of C|May not be taken concurrently)
AND (CIS 5107|Minimum Grade of C|May not be taken concurrently)
CIS 5425. Audit and Compliance for Security and Digital Forensics. 3 Credit Hours.
Information Systems' audit and assurance professionals are faced with different requirements and different types of audit and assurance. This course will provide students with a basic understanding of enterprise IT security and the need for audit and compliance. Students will learn about IT Security Terminology, Governance, and the Security audit practice that has matured into given sets of frameworks, methodologies, approaches, and models with certain sets of underlying assumptions such as COBIT, SOX, DoD, FIPS 100/200, FISMA, NIST, HSPD, OMB. Students will be exposed to various governance standards and federal compliance requirements - ISO27000, SAS, GAAP. Students will also learn some fundamentals such as differences between policy, process and procedure and the purpose of policy, process and procedure. Students who have completed an equivalent course at Temple or another institution will take an elective as recommended by the program advisor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5511. Programming Techniques. 3 Credit Hours.
Prerequisites: CIS 2168 and CIS 3223.
A more formalized view of data structures. Stacks, trees, tables, lists, multilinked structures, strings and files are considered. These are viewed in terms of their general usefulness in the construction of algorithms and in their efficient implementation. Both theoretical results and programming techniques will be stressed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5512. Operating Systems. 3 Credit Hours.
Prerequisites: CIS 3207 and CIS 3223.
Basic principles of operating systems; multi-tasking systems; control and coordination of tasks; deadlocks; synchronization, mutual exclusion, sharing; memory management, virtual memories, segmentation, paging; protection; file systems; resource management; evaluation and prediction of performance; design and implementation of operating systems in high-level languages.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5513. Automata and Formal Languages. 3 Credit Hours.
Prerequisites: CIS 2166 and CIS 3242.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5515. Design and Analysis of Algorithms. 3 Credit Hours.
The course objective is to provide students with an understanding of the principles and techniques used in the design and analysis of efficient algorithms. The main topics cover Greedy Algorithms, Divide and Conquer, Dynamic Programming, Network Flow, and Approximation Algorithms. Theoretical results related to NP-completeness will also be discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
CIS 5511|Minimum Grade of C|May not be taken concurrently.

CIS 5516. Principles of Data Management. 3 Credit Hours.
Prerequisites: CIS 5511 (or 8511).
This course covers fundamental concepts in constructing database management systems, including relational query languages, such as SQL and relational algebra, file organizations, storage management, system architectures, query processing, query optimization, transaction management, recovery, and concurrency control. Additional topics may include distributed databases, NoSQL databases and data integration.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CIS 5517. Data-Intensive and Cloud Computing. 3 Credit Hours.
Prerequisites: CIS 2168 and (CIS 2166 or MATH 2101 or ENGR 2101 or MATH 3045).
This course will expose students to recently emerged and fast moving technology of big data and cloud computing. It will cover a spectrum of topics from core techniques in data management and analysis to highly-scalable data processing using parallel database systems. Students will be introduced to big data ecosystems such as Hadoop, Spark, Storm and MapReduce; cloud technologies such as Amazon EC2, Microsoft Azure and Google Cloud; data management tailored to cloud and big data such as No SQL, Google Big Table/Apache HBase, and introductory applications to Big Data and cloud environment. Students will work directly with a selected set of these platforms, compare and contrast their relative strengths and weaknesses, and characterize the problems they are designed to solve. Note: Students may not receive credit for both CIS 5517 and CIS 4517.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5523. Knowledge Discovery and Data Mining. 3 Credit Hours.
Prerequisites: MATH 2043 and (CIS 2166 or MATH 2101 or ENGR 2101) and (MATH 3031 or ECE 3522 or STAT 2103 or BIOL 3312) and (CIS 1051 or CIS 1057 or CIS 1068).
Basic concepts and techniques for the automated extraction of interesting patterns in large databases. Topics covered include: association-rule mining, sequence mining, web and text mining, data warehousing, information filtering, classification and clustering analysis, Bayesian and neural networks, classification and regression trees, hypotheses evaluation, feature extraction, dimensionality reduction, singular value decomposition, data compression and reconstruction, visualization of large data sets, fractals in databases, and indexing methods that support efficient data mining and queries by content. Special emphasis is given in multimedia, business, scientific, and medical databases. Note: Students may not receive credit for both CIS 5523 and CIS 4523.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5524. Analysis and Modeling of Social and Information Networks. 3 Credit Hours.
Prerequisites: MATH 2043 and (CIS 2166 or MATH 2101 or ENGR 2101) and (MATH 3031 or ECE 3522 or STAT 2103 or BIOL 3312) and (CIS 1051 or CIS 1057 or CIS 1068).
This course will include methods for analyzing and modeling the following aspects of social networks: the small-world network models, centralized and decentralized social network search algorithms, power-laws and preferential attachment, diffusion and information propagation in social networks, influence maximization in social networks, community detection in social networks, models of network cascades, models of evolving social networks, links and attributes prediction. Note: Students may not receive credit for both CIS 5524 and CIS 4524.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5525. Neural Computation. 3 Credit Hours.
Prerequisites: STAT 8003/8103 and undergraduate-level understanding of probability, statistics, and linear algebra.
Neural networks provide powerful techniques to model and control nonlinear and complex systems. The course is designed to provide an introduction to this interdisciplinary topic. The course is structured such that students from computer science, engineering, physics, mathematics, statistics, cognitive sciences, and other disciplines learn the main principles of this area as well as have an opportunity to explore promising research topics through hands-on experience with neural network simulators applied to classification and prediction problems ranging from biomedical sciences to finance and business.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5526. Machine Learning. 3 Credit Hours.
Prerequisites: MATH 2043 and (CIS 2166 or MATH 2101 or ENGR 2101) and (MATH 3031 or ECE 3522 or STAT 2103 or BIOL 3312) and (CIS 1051 or CIS 1057 or CIS 1068).
The goal of the field of machine learning is to build computer systems that learn from experience and are able to adapt to their environments. This introductory machine learning course will present modern machine learning algorithms for supervised and unsupervised learning. It will provide the basic intuition behind the algorithms as well as a more formal understanding of how and why they work. Students will learn how to apply machine learning algorithms on a range of real-life problems and how to evaluate their performance.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CIS 5527. Data Warehousing, Filtering and Mining. 3 Credit Hours.
Prerequisites: CIS 5511 (or CIS 8511) and an undergraduate course in databases.
The course is devoted to information system environments enabling efficient indexing and advanced analyses of current and historical data for strategic use in decision making. Data management will be discussed in the context of data warehouses/data marts; Internet databases; Geographic Information Systems, mobile databases, temporal and sequence databases. Constructs aimed at an efficient online analytic processing (OLAP) and those developed for nontrivial exploratory analysis of current and historical data will be discussed in detail. The theory will be complemented by hands-on applied studies of problems in such fields as financial engineering, e-commerce, geosciences, and bioinformatics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5535. Probabilistic Graph Models. 3 Credit Hours.
Prerequisites: CIS 2033 and CIS 3223.
Probabilistic graphical models are very important machine learning tools for knowledge representation and reasoning under uncertainty. They have been widely used in machine learning and related fields, such as computer vision, natural language processing, data mining, bioinformatics and even computer network research. This course aims to make a comprehensive introduction over the most important theories, algorithms, and applications of probabilistic graphical models, and facilitate the advanced research within the computer & information sciences department and related disciplines outside.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5538. Text Mining and Language Processing. 3 Credit Hours.
Prerequisites: CIS 2033.
This course will cover a broad overview of problems and techniques in text mining and natural language processing. It will also provide in-depth coverage of the latest natural language processing research in selected topics. The in-depth part of the course will focus on the latest research in unsupervised information extraction. This part of the course will cover such techniques as pointwise mutual information, pattern-matching, bootstrapping, Hidden Markov Models, Conditional Random Fields, and language modeling techniques, among others.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5543. Computer Vision. 3 Credit Hours.
Prerequisites: CIS 2033 and CIS 3219 and CIS 3223.
The objective of the course is to introduce the theory and application of computer vision. The theoretic part introduces the analysis of visual patterns and the generative models behind them. The application part uses real world tasks to help students to learn practical computer vision technologies. The course covers the following topics: image formation (camera model, color space, illumination model, etc.), low level vision processing (edge detection, intensity based segmentation, etc.), popular research tools in computer vision, visual matching and registration, visual recognition, image and category classification, scene understanding, object detection, visual tracking, activity and action analysis, and selected advanced topics. In addition to course lectures, the course uses homework assignments, in-class discussions and course projects.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5590. Topics in Computer Science. 3 Credit Hours.
Prerequisites: Special authorization required.
Current topics and issues in Computer Sciences are covered. This course is repeatable for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CIS 5603. Artificial Intelligence. 3 Credit Hours.
Prerequisites: CIS 2166 or MATH 3098, and CIS 216B and CIS 2033.
Since today's AI is mostly learning and inference, we will focus on both subjects. This course is designed as the first graduate course in learning and inference. It introduces the basic concepts by focusing on their intuitive understanding and algorithmic perspective. It is intended to prepare beginning graduate students for further graduate courses in machine learning, data mining, robotics, and computer vision. The course project will focus on programming and practical experiments with our high end robot Pekeell from Wany Robotics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CIS 5617. Computer Networking and Communication. 3 Credit Hours.
Prerequisites: CIS 5511 (or 8511) and CIS 5512 (or 8512).
Introduction to the design and analysis of computer networks and communications systems, including the Physical, Data Link, Network, Transport and Application layers. The Internet (TCP/IP) model will be emphasized and compared and contrasted with other current technologies. Major themes include the distinction between service and protocol, performance metrics, analysis techniques, and fundamental performance tradeoffs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5618. Energy Management in Data Centers and Beyond. 3 Credit Hours.
Students are expected to have a background in data structures and algorithms as well as computer architecture and operating systems. Comprehensive coverage of energy management in data centers: essential concepts in data center architecture, including the computing core, data center network, and storage systems; energy management in computing elements, caches, “in-the-box” interconnects, primary memory, storage systems, and data center network; data center level issues including power, thermal, and cooling management at data center level and interaction of data centers with smart grid. Other issues covered include design of energy efficient software, virtualization and energy management of VMs, energy issues in cloud computing, and modeling of energy-performance interplay.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5635. Security in Cyber-Physical Systems. 3 Credit Hours.
Prerequisites: CIS 3207 and CIS 3223.
Cyber-Physical Systems (CPS) augment physical systems with monitoring, communication and control capabilities to enhance their efficiency, flexibility, safety, and resilience. The course will start with an overview of these opportunities and challenges and then gradually explore a few physical systems including their monitoring, communications, control, safety, and security requirements, as well as potential attack vectors and solutions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5636. Ad Hoc Networks. 3 Credit Hours.
Prerequisites: CIS 3223, and CIS 4319 or 4329.
A comprehensive approach to fundamentals of ad hoc networks including media access protocols, routing protocols, implementation and communication performance analysis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5637. Network & Information Security. 3 Credit Hours.
Prerequisites: CIS 3329 or CIS 4319 or CIS 5003.
This course introduces fundamental knowledge of cryptography and its applications to network and information security.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 5639. Wireless Network and Communication. 3 Credit Hours.
Prerequisites: CIS 3207 and CIS 3223.
This course introduces the fundamental design and performance issues of wireless networks and communications.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CIS 5642. Computer Architecture. 3 Credit Hours.
Prerequisites: CIS 2168 and CIS 3207.
Since 1951, there have been thousands of new computers using a wide range of technologies and having widely varying capabilities. Dramatic changes that have occurred in just over 50 years. After adjusting for inflation, price/performance has improved by almost 100 billion in 55 years, or about 58% per year. Another way to say it is we've seen a factor of 10,000 improvement in cost and a factor of 10,000,000 improvement in performance. This course covers the recent developments in modern computer architectures and the emerging design methods for high performance computing.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CIS 5643. Emerging Storage Systems and Technologies. 3 Credit Hours.
Prerequisite: CIS 3207.
Storage systems are of increasing importance because of ever-growing volume, velocity, and heterogeneity of data produced by a wide variety of computer systems. This course will provide a comprehensive coverage of storage and file systems that underlie bigdata systems with respect to both technological and application related challenges.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CIS 5644. Distributed Systems. 3 Credit Hours.
Prerequisites: CIS 2166 and CIS 2168 and CIS 5512 (or 8512).
We consider a distributed computer system that consists of multiple autonomous processors that do not share primary memory but cooperate by sending messages over a communication network. Discussion of special problems related to distributed control such as election and mutual exclusion, routing, data management Byzantine agreement, and deadlock handling.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CIS 9182. Independent Study. 1 to 6 Credit Hour.
Independent research supervised by a Computer and Information Sciences faculty member. NOTE: Only six credits of independent study can be counted towards any MS degree.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

CIS 9190. Seminars in Computer and Information Science. 1 Credit Hour.
Throughout the semester, various guest lecturers will discuss their area of research. Students are required to attend at least five lectures and submit five short papers on the topics presented. This course counts in the same category as independent study when it comes to program requirements (MS and/or PhD degree). This course is recommended for PhD students who have passed the qualifying exam, to broaden their research interests. This course is recommended for MS students who are interested in CIS research and want to take 10 credits per semester.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Computer & Info Sci.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Science & Technology.
Repeatability: This course may be repeated for additional credit.

CIS 9282. Independent Study. 1 to 6 Credit Hour.
Independent research supervised by a Computer and Information Sciences faculty member. NOTE: Only six credits of independent study can be counted towards any MS degree.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

CIS 9590. Seminar in Advanced Topics in Computer Science. 3 Credit Hours.
Prerequisites: Permission of instructor.
Topics to be decided individually.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.
**CIS 9601. Computer Graphics and Image Processing. 3 Credit Hours.**

*Prerequisites: CIS 5511 or 8511.*

An analysis of techniques used in computer manipulation of two- and three-dimensional images. Although elements of computer graphics are covered (e.g., two- and three-dimensional transforms), the main focus is on image processing techniques. We will also gain insight into basic techniques in computer vision. Topics covered include image filters, image segmentation, similarity of images, object detection, object recognition, and shape representation and similarity. Nowadays it is an easy task to transfer visual input of a camera to a computer's memory. However, image and video understanding belong still to unsolved problems of computer science. The main objective of the course is to convey basic intuitions behind the unsolved and solved problems and to introduce some of the techniques that provided solutions to some of the problems.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**CIS 9602. User Interface Design and Systems Integration. 3 Credit Hours.**

*Prerequisites: CIS 5511 or 8511.*

This course focuses on the principles of usability engineering to design effective interfaces and as the basis for integrating existing systems to form new systems. The course builds on knowledge of networking, databases, and programming. The course outline is partly based on the recommendations of the ACM Special Interest Group on Computer-Human Interaction for an introductory graduate course on user interface design.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**CIS 9618. Web Applications Development. 3 Credit Hours.**

*Prerequisites: CIS 5511 (or 8511) and CIS 5512 (or 8512).*

This course takes a technology-based approach to software engineering of networked application systems design and programming. It draws on new Microsoft .NET technology, together with former object-oriented design and programming, for its theoretical, architectural, and system design foundations. The course bridges software engineering principles in their most abstract and conceptual sense, with programming technique in its most concrete and pragmatic sense. It demonstrates how to optimize productivity of the software engineer, integrate the best that open technologies have to offer, and build large-scale systems that operate most efficiently on the internet. The course is divided into three parts: 1) theory that flows from .NET and object-oriented methodologies, including Application System Architectures, Design Methodologies, Quality Assurance, Scalability, and Security; 2) development of a working skill set in two .NET languages: ASP.NET and VB.NET and its major development tool, VS.NET; and 3) design and programming of a small but complete web-deployed application.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**CIS 9651. Artificial Intelligence, Heuristic Models, and Education. 3 Credit Hours.**

*Prerequisites: CIS 5603 or 8603.*

Introduction to how artificial intelligence and heuristic models are used to build better computer-based educational systems. Current as well as past models are explored (e.g., PROUST, GUIDON, SOAR, etc.). Key issues to be examined include student models, interfaces, pedagogical expertise, domain expertise, and collaborative learning systems.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**CIS 9665. Advanced Topics in Data Base Systems. 3 Credit Hours.**

*Prerequisites: CIS 5516 or 9616.*

Survey of recent developments in database systems with an emphasis on object-oriented databases (OODB’s). Prototype and operational OODB systems will be analyzed. Applications of OODB's to computer-aided software engineering (CASE) environments, integrated application development environments, and geographical information systems.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.
CIS 9666. Advanced Networks and Client-Server Computing. 3 Credit Hours.
Prerequisites: CIS 5617 or 9617.
Computer networks, network technology, protocols, routing algorithms, reliability and design issues. Data transmission and transmission media, data communications fundamentals, transmission efficiency, wide-area networks, local area networks, wireless networks, TCP/IP and other protocol architectures, client/server computing, network management, and network security.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 9668. Design and Development of E-Commerce Systems. 3 Credit Hours.
Prerequisites: CIS 9618.
This course teaches the technical aspects of developing a commercial website, including the business-to-consumer and business-to-business models. This process combines a number of integrated technologies: Web page and style sheet design; dynamic web pages that access data from relational and XML databases; server side transaction processing; client/server and distributed processing; principles of internet security, scalability, and database reliability; and .NET programming. Students develop a site as a course project using custom coding using .NET and Microsoft's web site development system Commerce Server 2000. Other tools to be used are Dreamweaver or FrontPage for web design, VS for .NET program development, and the Microsoft Enterprise Manager for the management of SQL Server databases.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 9669. Distributed and Parallel Computer Systems. 3 Credit Hours.
Prerequisites: CIS 5617 or 9617.
Intended for students interested in the advances of scalable parallel computing systems. The main goal is to apply distributed and parallel computing theories to practical scalable parallel application development and new parallel programming tool construction.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CIS 9991. Master's Research Projects. 1 to 6 Credit Hour.
Short-term, limited research project or laboratory project in the field. This course is not the capstone project course, nor can it be used for thesis based research. The course is for master's students only, including PSM, MA or MS. This class will not confer full-time program status unless nine credits are taken.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CIS 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
This course is required for students who are preparing for the preliminary or candidacy examination. Students should enroll after coursework is completed or when preparing for the candidacy exam until the time that the preliminary or candidacy examination is completed. This course will confer full-time status at the minimum credit hour registration limit of one credit. All students must complete a minimum of one credit of this course. Students must complete a total of 6 credit hours of 9994, 9998 and 9999.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CIS 9995. Capstone Project. 1 to 6 Credit Hour.
Capstone project for master's students including students in PSM, MA or MS. This class will provide full-time status. Students in PSM programs need to register for at least one credit of this course to fulfill program requirements. Additional credits may be required for specific programs. This course will confer full-time status at the minimum credit hour registration limit of one credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
CIS 9996. Master's Thesis Research. 1 to 6 Credit Hour.
Course for master's thesis research. Only intended for students in thesis bearing master's programs. A minimum of one credit is required. This course will confer full-time status at the minimum credit hour registration limit of one credit.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

CIS 9998. Pre-Dissertation Research / Elevation to Candidacy. 1 to 6 Credit Hour.
This course is intended for students who are performing research prior to candidacy. Students can register for this course after required courses are completed. This course will confer full-time status at the minimum credit hour registration limit of one credit. Students must be registered for this course during the semester that they are to be elevated to candidacy examination. Students must complete a total of 6 credit hours of 9994, 9998 and 9999.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

CIS 9999. Dissertation Research. 1 to 6 Credit Hour.
The course is for Ph.D. students who have been elevated to candidacy. During the course of their candidacy students must complete a minimum of two credits of dissertation research. This course will confer full-time status at the minimum credit hour registration limit of one credit. Students must complete a total of 6 credit hours of 9994, 9998 and 9999.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**Student Attribute Restrictions:** Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

**Repeatability:** This course may be repeated for additional credit.

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**Counseling Psychology (CPSY)**

**Courses**

CPSY 5492. Theories of Counseling Psychology. 3 Credit Hours.
This course explores the function and essential elements of counseling theories and examines the student's philosophical beliefs as they apply to counseling.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

CPSY 5511. Counseling in the Schools. 3 Credit Hours.
First course for those concentrating in school counseling. The nature, techniques, and problems of school counseling are explored.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

CPSY 5519. Group Counseling. 3 Credit Hours.
An exploration of the functions of group counseling in meeting client/student needs. Emphasis on theory and principles of group process and on the development of group skills by participation in an experiential group counseling situation. Attention to the practice of effective group leadership skills.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

CPSY 5526. Multicultural Counseling. 3 Credit Hours.
Survey course exploring racism, sexism, ageism, and the cultural conditions that affect development of counseling relationships. Small group activities used to help students explore prejudices and attitudes towards culturally different groups.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.
CPSY 5565. Professional Issues in Diverse School Settings. 3 Credit Hours.
Survey course dealing with history, philosophy, principles, and objectives of counseling in elementary and secondary schools and a consideration of the counselor's professional functions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CPSY 5566. Professional Issues in Agencies. 3 Credit Hours.
Survey course dealing with history, philosophy, principles, and objectives of counseling in mental health agencies and a consideration of the counselor's professional functions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CPSY 5571. Introduction to Counseling Psychology. 3 Credit Hours.
For students not majoring in counseling psychology. A lecture-laboratory course focusing on the nature, history, philosophy, techniques, and problems of counseling psychology.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CPSY 5572. Interviewing Techniques. 3 Credit Hours.
For students not majoring in counseling psychology. The theory and techniques of interviewing especially as they apply to problems of educational, vocational, personal and social counseling, rehabilitation, and employment.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CPSY 5579. Introduction to Couples and Family Counseling. 3 Credit Hours.
An introductory course on theoretical and therapeutic components of major schools of thought within marital and family therapy using videotapes, training films, guest lecturers, simulations, and observation of family sessions to explore specific therapeutic behaviors that differentiate schools of thought. Focusing on perceptual, conceptual, and clinical skills of family therapists provides a foundation for future training in this area.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CPSY 5591. Legal and Ethical Issues in Counseling Psychology. 3 Credit Hours.
To familiarize students and mental health professionals with the history and development of professional ethics and standards and their legal implications in the areas of counseling and psychotherapy. Topics include: privileged communication, confidentiality, rights of the client and agency, civil commitment, and licensure and mental health laws.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CPSY 5593. Career Counseling and Development. 3 Credit Hours.
Theories, strategies, and techniques of career counseling are described and illustrated. Research and theories in career development and decision-making are explored and related to lives of workers. Instruction is given in the work personality, history, and future of work, and needs of special populations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CPSY 5668. Sem Counseling: Dev Psych. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CPSY 5691. Diagnosis in Counseling Psychology. 3 Credit Hours.
Course content focuses on historical perspectives related to psychopathology and diagnoses, diagnostic biases, and understanding the symptoms and treatment of major mental illnesses as they are expressed in a culturally diverse society. Pedagogical techniques include lectures, role-plays, and criterion-related exercises.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CPSY 5694. Introduction to Assessment. 3 Credit Hours.
Training of students in interpretation and use of various methods of assessment and diagnosis in schools and agencies. Lectures and laboratory procedures are employed to integrate theory and practice.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CPSY 5698. Counseling Psychology Laboratory I. 3 Credit Hours.
Analysis of counseling relationship, with emphasis on counseling micro skills training, as examined through prerecorded models, case studies, and role-playing.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CPSY 5699. Counseling Psychology Laboratory II. 3 to 6 Credit Hours.
Analysis of counseling relationship, with emphasis on crisis counseling intervention skills training, as examined through prerecorded models, case studies, and role-playing.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CPSY 8701. Seminar in Counseling Supervision and Consultation. 3 to 12 Credit Hours.
Focuses on the significance, structure, and techniques of supervision and consultation in the work of counselors. First-hand experience offered through supervising counselors-in-training. For advanced students in counseling.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CPSY 8764. Seminar in Counseling and Psycho-pathology. 3 Credit Hours.
The objectives of this course are for doctoral students to develop an understanding of the etiologies, diagnoses, and treatment approaches of the major psychopathological disorders within a multi-cultural context, become versed in the application and use of the DSM, apply the scientist/practitioner approach to diagnosis and treatment issues, and develop process skills which will enable students to adapt to future changes in the area of psychopathology.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CPSY 8789. Seminar in Race, Culture, and Gender in Psychotherapy. 3 Credit Hours.
The course focuses on the issues raised by diversity in the practice of psychotherapy. Students examine the literature and research related to this issue as well as their own perspectives and feelings. The attitudes, history, and culture of different groups in our society are reviewed. The objective is to assist students in integrating their knowledge of different groups and psychology with their self-awareness so they understand the demands of the transcultural therapist in a society with complex diversity.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CPSY 8790. Seminar in Counseling. 3 to 12 Credit Hours.
Taught on a rotating basis by the graduate faculty in counseling. Current trends, research, issues, and professional problems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
CPSY 8791. Seminar in Learning Theory and Behavior Therapy. 3 Credit Hours.
The history, philosophy, and theoretical perspectives of learning theory and behavior therapy are examined. Learning theory as the foundation for behavior therapy is explored. Techniques of therapy such as cognitive therapy, relaxation training, systematic desensitization, contingency management, and flooding are reviewed. Additionally, concepts related to behavioral humanism are introduced, particularly as they relate to marriage and family therapy.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CPSY 8792. Seminar in Theories and Systems of Psychology and Counseling. 3 Credit Hours.
The course reviews and evaluates the theories and systems of psychology and counseling. Students explore how these theories and systems form the foundation for the current practices of behavior change and psychotherapy. Evaluative research related to the practices of psychotherapy and behavior change are examined. Students are expected to clarify their beliefs and theories about the therapeutic change process.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CPSY 8793. Seminar in Assessment. 3 Credit Hours.
Emphasis on the knowledge, skills and methods in comprehensive psychological assessment in counseling psychology. Practice in diagnostic interviewing, comprehensive assessment, integration of data, and reporting results. Instruction in assessing different individual dimensions, disorders and populations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CPSY 8794. Seminar in Group Counseling and Group Therapy. 3 Credit Hours.
A didactic-experiential course focusing on selected theories of group counseling and psychotherapy, leadership training, research, and critical issues of the therapeutic management and/or facilitation of a counseling or therapy group.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CPSY 8795. Seminar in Family Psychology. 3 Credit Hours.
Taught from a scientist-practitioner perspective, the course covers the development of family psychology, and as a part of this movement, the conceptual and clinical foundations of family therapy, including integrative approaches.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CPSY 8796. Seminar in Neuropsychology. 3 Credit Hours.
The course focuses on the theories and research related to neuropsychology. The physiology of the brain and its interconnection with the psychology of the brain are explored. Further, the parameters and methods of neuropsychological assessment and remediation are reviewed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CPSY 8797. Seminar in Legal and Ethical Issues in Counseling and Psychotherapy. 3 Credit Hours.
To familiarize students and mental health professionals with the history and development of professional ethics and standards and their legal implications in the areas of counseling and psychotherapy. Topics may include: privileged communication, confidentiality, rights of the client and agency, civil commitment, and licensure and mental health laws.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CPSY 8798. Community Counseling Clinic. 3 to 12 Credit Hours.
Clinical training with clients presenting vocational, educational, and personal problems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CPSY 9085. Advanced Counseling Techniques. 3 Credit Hours.
Provides counseling training experience that improves counseling skills and processes, while developing documentation and report writing skills.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CPSY 9185. Master's Internship in Counseling Psychology. 3 Credit Hours.
First-hand experience in doing the work of the counselor through placement in one or more appropriate settings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CPSY 9285. Master's Internship in Counseling Psychology. 3 Credit Hours.
First-hand experience in doing the work of the counselor through placement in one or more appropriate settings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CPSY 9385. Internship in Counseling Psychology. 1 to 6 Credit Hour.
This course is a one-year full-time experience working on the staff of an approved agency where counseling psychologists typically are employed. Placements are tailored to satisfy the professional training needs and interest of students. Emphasis is on advanced skill development.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CPSY 9387. Practicum in Counseling Psychology I & II. 3 to 12 Credit Hours.
This is a two-sequence course that provides students with exposure to the professional environments that they plan to be employed in the future (i.e., agencies or schools). Students will be involved in a variety of supervised activities at their program-approved sites (i.e., individual, couples, group, family counseling; various administrative and professional development activities).

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CPSY 9982. Independent Study in Counseling. 1 to 12 Credit Hour.
Intended to meet the needs of students who desire to carry on an individual investigation. For advanced students only.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CPSY 9999. Doctoral Dissertation in Counseling Psychology. 1 to 6 Credit Hour.
Registration limited to candidates for the Ph.D. program who have successfully completed the preliminary examination and the minimum hours of course work required for the degree. Continuous registration during the fall and spring semesters is required until the dissertation has been completed and accepted by the Graduate Board.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.

Crafts (CRFT)

Courses
CRFT 8183. Graduate Projects, Ceramics. 3 to 6 Credit Hours.
Creative studies in ceramics for the master's degree candidate. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.
CRFT 8184. Graduate Projects, Ceramics II. 3 to 6 Credit Hours.
Creative studies in ceramics for the master's degree candidate. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

CRFT 8201. Graduate Seminar, Ceramics/Glass/Fibers. 3 Credit Hours.
Creative studies and discussions related to career concerns in these fields. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

CRFT 8202. Graduate Seminar, Ceramics/Glass/Fibers II. 3 Credit Hours.
Creative studies and discussions related to career concerns in these fields. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

CRFT 8283. Graduate Projects, Glass. 3 to 6 Credit Hours.
Creative studies in glass for the master's degree candidate. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

CRFT 8284. Graduate Projects, Glass II. 3 to 6 Credit Hours.
Creative studies in glass for the master's degree candidate. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

CRFT 8383. Graduate Projects, Fibers. 3 to 6 Credit Hours.
Creative studies in fibers for the master's degree candidate. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

CRFT 8384. Graduate Projects, Fibers II. 3 to 6 Credit Hours.
Creative studies in fibers for the master's degree candidate. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

CRFT 8401. Graduate Seminar, Metals. 1 to 3 Credit Hour.
A study of the work of internationally recognized metalsmiths leads to discussions of the philosophical bases of contemporary metalwork. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.
CRFT 8402. Metals Workshop. 3 Credit Hours.
A study of the work of internationally recognized metalsmiths leads to discussions of the philosophical bases of contemporary metalwork.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may not be repeated for additional credits.

CRFT 8403. Graduate Seminar, Metals II. 1 to 3 Credit Hour.
A study of the work of internationally recognized metalsmiths leads to discussions of the philosophical bases of contemporary metalwork. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

CRFT 8483. Graduate Projects, Metals. 3 Credit Hours.
Creative studies in the areas of Metals, Jewelry and CAD/CAM for the master's degree candidate. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

CRFT 8484. Graduate Projects, Metals II. 3 Credit Hours.
Creative studies in the areas of Metals, Jewelry and CAD/CAM for the master's degree candidate. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

CRFT 9182. Graduate Independent Study. 1 to 3 Credit Hour.
Self-directed study and research developed in conjunction with, and supervised by, a senior faculty member in the major area of the student.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

CRFT 9184. Graduate Thesis Exhibition: Clay. 3 Credit Hours.
The culminating visual presentation of the candidates' creative research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

CRFT 9189. Tyler Art Workshop/Scotland. 3 Credit Hours.
A four-week summer studio art program in Scotland, including an introductory week in London visiting museums and galleries. Students live and work in studio facilities in Scotland. Artists from the Glasgow School of Art and Tyler School of Art staff conduct intensive workshops in a variety of media. The students' travel and research experiences in Great Britain will be utilized as a source of inspiration for the development of their artwork.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

CRFT 9284. Graduate Thesis Exhibition: Glass. 3 Credit Hours.
The culminating visual presentation of the candidates' creative research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.
CRFT 9295. Graduate Thesis Research: Ceramics and Glass. 3 Credit Hours.
Research projects in the areas of teaching or technology are developed in consultation with the candidates' professor and advisor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

CRFT 9384. Graduate Thesis Exhibition: Fibers. 3 Credit Hours.
For graduate students in the Fibers area, working toward their M.F.A. degree. This course is required in the fourth semester of their residency. The work in this course is to culminate in the thesis exhibition.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
CRFT 9395| Required Courses:2|Minimum Grade of B|May not be taken concurrently.

CRFT 9395. Graduate Thesis Research: Fibers. 3 Credit Hours.
Research projects in the areas of teaching or technology are developed in consultation with the candidates' professor and advisor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

CRFT 9484. Graduate Thesis Exhibition: Metals. 1 to 3 Credit Hour.
The culminating visual presentation of the candidates' creative research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

CRFT 9495. Graduate Thesis Research: Metals. 3 Credit Hours.
Research projects in the areas of teaching, history, or technology are developed in consultation with the candidates' professor and advisor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

Criminal Justice (CJ)

Courses

CJ 5001. Evidence-Based Policing. 3 Credit Hours.
The aim of this course is to introduce police professionals to the growing body of research and knowledge about their job, and develop a desire to merge evidence-based practice into their professional life. Evidence-based practice is about making decisions through the conscientious, explicit and judicious use of the best available evidence from multiple sources by asking an answerable question, acquiring evidence, critically appraising the trustworthiness and relevance of the evidence, aggregating the evidence together, applying the evidence into the decision-making process, and assessing the outcome. The course is also designed to help practitioners understand what is necessary to develop their own evidence about work practices. On successful completion of the course, students will be able to contrast the evidence-based approach to opinion, expertise and experience; summarize influential studies in policing; and systematically gather, collate, assess and weigh evidence on a topic from various sources.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CJ 5011. Influencing Decision-Makers. 3 Credit Hours.
The aim of this course is to provide students with an understanding of the role of analysis in policing, crime prevention, and criminal investigation. The course provides an overview of intelligence-led policing, criminal intelligence, the intelligence cycle, the 3-i model, strategies for developing analytical capacity, tactical and strategic crime prevention planning, and techniques for intelligence and analytical product dissemination. The course will also introduce analysts to analytical techniques used by intelligence officers.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CJ 5012. Crime Science Tools and Techniques. 3 Credit Hours.
The aim of this course is to provide a structure and framework for the development of skills in crime science, and the evaluation of crime prevention strategies. Course components will include structuring projects for evaluation, the appreciation of crime prevention mechanisms, data preparation, process and outcome evaluation, time series analysis, and the use of spatio-temporal techniques such as the weighted displacement quotient. On successful completion, students will be able to set up crime prevention projects, monitor ongoing implementation, and assess any crime reduction outcomes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CJ 5021. Ethical Governance. 3 Credit Hours.
Ethical governance refers to organizational practices designed to achieve value-driven policing across the ranks. It strives to align everyday policing operations (both internally and externally) with enduring democratic values, including policing by consent, access to justice, equality, equity and respect for human rights. In a democratic society, such values must be sustained both within police organizations as well as externally, through relationships with citizens. Police leaders, policy-makers and scholars are looking afresh at mechanisms for enhancing ethical governance, particularly in light of recent threats to police legitimacy. In order to balance evidence-based policing with core organizational values, police leaders must cultivate and develop officers that perform with the highest levels of community commitment, integrity, and innovation. This course canvasses important concepts, debates, visions and practices in ethical governance, providing students with the tools to critically examine challenges and opportunities in their own organizational environments. The aim of this course is to identify and critically examine the ethical dimensions of leadership in a democratic society, and to explore ways of aligning police operations and administration with enduring organizational values.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CJ 5022. Developmental Leadership. 3 Credit Hours.
This course will help graduate policing students develop an appreciation for formal and informal leadership roles and how best to influence differing groups of followers. In light of increasing public and media scrutiny of police interactions with minority group members, understanding leadership in tense or in extremis situations is invaluable. Understanding detractors from effective leadership such as bias and the potential for dehumanization are important to understanding the common reactions when in the role of police officer. Students will consider the need for flexibility across the various environments and activities encountered by police.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CJ 5023. Seminar in Executive Management. 3 Credit Hours.
The aim of this executive seminar program is to ask students to reflect on their core values, and those of their agency and to think more critically about how these interact with the competing core values of other branches of city government, other police departments and aspects of the judicial system, and stakeholders from outside of government, such as private industry, the media, community and protest groups. In a seminar setting alongside the course instructor as moderator and an invited guest, each week provides an opportunity to meet leaders from outside of policing, identify areas of common ground, and cultivate a deeper, more critical understanding of the student's role leading one of the major arms of government. Students will emerge with a clearer sense of their role in directing and forming the vision, culture and ethos of their organization.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CJ 8001. The American Criminal Justice System. 3 Credit Hours.
A broad, survey course designed for students beginning graduate studies in criminal justice who lack background in the field or who seek to investigate the latest theoretical, programmatic, and policy issues. The class familiarizes students with historical milestones and shifts in criminal justice philosophy and practice. It reviews the operations of criminal justice agencies and assesses current practices in light of evidence on outcomes and other consequences. The course explores the significance of race, class, and gender in criminal justice processing, agencies and programs. Students have the opportunity to learn and apply a range of methods and theoretical perspectives in analyzing and critiquing selected justice system practices and reform measures.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CJ 8101. Decision Making in Criminal Justice. 3 Credit Hours.
Core Course. Conceptualizes criminal justice as a series of interrelated decision stages. Examines organizational, legal and research issues related to each decision stage.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CJ 8102. Research Methods in Criminal Justice. 3 Credit Hours.
Core course. Assumes prior familiarity with basic methodology and statistics. Prepares students to conduct criminal justice research and evaluation. Covers topics of causality, reliability, validity, and quasi-experimental methods.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CJ 8104. Law and Social Order. 3 Credit Hours.
Core Course. Examines moral, practical, legal, and constitutional limitations of law as a means of securing social order. Classes and readings are designed to promote critical analysis of primary (constitutions, statutes, cases) and secondary (legal, philosophical, social science literature) sources of law, with special focus on the role of the Supreme Court in balancing state vs. individual interests and on rules and standards by which the Court’s discretion and decision-making can be assessed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CJ 8105. Statistical Issues and Analysis of Criminal Justice Data. 3 Credit Hours.
Core Course. Introduces criminal justice graduate students to simple and multiple regression analyses in criminal justice research. Extended treatment of the detection of non-normal data through the use of graphical and statistical techniques, and the statistical implications of highly non-normal data that are encountered in many areas of criminal justice. Clarifies relations between statistical assumptions, results, and use of results for decision making purposes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CJ 8106. Theories of Crime and Deviance. 3 Credit Hours.
Core Course. The goal of the course is to provide an appraisal of the foundations for understanding criminal behavior. Students read major current and classic works couched at different levels of analyses about the origins of criminal behavior including not only violent and property crime but also delinquency, white collar crime and regulatory violations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CJ 8201. Court Processes and Administration. 3 Credit Hours.
Focuses on historical development, structure and processes of the American criminal court system. Identifies key decision points in the criminal process (pretrial, charge, plea negotiations, sentencing etc.) and examines their impact on the work of the court. Studies the role of key figures (prosecutor, judge, defense attorney, defendant and victim) in contemporary court setting. All discussions set within broad context of the inevitable conflict between personal liberty and community safety, and the contrasting goals of the "formal" criminal justice system versus the "informal" courtroom workgroup.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CJ 8202. Corrections. 3 Credit Hours.
Analyzes the theory, practices and policies of the American correctional system, covering the nature and administration of both institutional and community sanctions and agencies. Students explore competing penal theories and review evidence on the effectiveness of correctional practices. The course investigates the historical development and evolution of imprisonment, trends in the use of confinement, and the effects of incarceration on offenders, families and communities. Students analyze the characteristics of correctional populations and debate the causes and implications of race, class and gender differences. The course identifies significant current issues and reviews the ethical, legal and practical dimensions of proposals for reform. Note: Prior to fall 2016, the course title was "Correctional Philosophy and Administration."

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CJ 8203. Issues in Law Enforcement. 3 Credit Hours.
This course focuses on conceptual models of policing and how they affect operational priorities and resource decisions in law enforcement. Topics include community policing, problem-oriented policing and intelligence-led policing, among others. This is a wide-ranging course that explores policing from an international perspective and through the lens of the varying contentious issues of the day.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CJ 8204. Policy and Practice in Juvenile Justice. 3 Credit Hours.
This course is designed to increase the student's understanding of the purposes, structure and processes of this distinctly American invention, the juvenile justice system. Together, we explore its recent development and current policy initiatives that are reshaping its role in our society. We also look at the target of this system: delinquent kids. We examine the juvenile justice system in terms of its underlying aims, its historical foundations, and its sociopolitical contexts, explanations of delinquency, theories of child development, case law, legislation, changes now occurring with respect to its goals, and recent initiatives to increase dependency on scientific evidence of effectiveness. In doing so, we seek to understand the system's limitations, contradictions and strengths. At the same time, we examine the role that research plays in shaping the policies and programs that constitute this system.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CJ 8205. Aggression and Violence. 3 Credit Hours.
Students will learn about different types of violence in the United States, including homicide, assault, robbery, family violence, youth violence, drug related violence, and gun-related violence. A three-part, interdisciplinary perspective guides this inquiry: (1) examination of patterns and trends, (2) examination of correlates and causes, including biological, psychological and sociological theories, and (3) investigation of different policy responses to violence. At the conclusion of the course, students should be able to do two things: (1) critically discuss major explanations that have been offered for different kinds of violent behavior, and (2) critically evaluate policies for preventing and controlling specific types of violence.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CJ 8221. Qualitative Approaches to Research. 3 Credit Hours.
This course will provide an introduction to different paradigms, approaches and skills that constitute part of a very broad field of qualitative research. This course is designed to be highly interactive. All members of the class will play an active role in leading discussions, sharing knowledge and experiences, and voicing concerns and questions. Students will conduct exercises for "stretching" their skills of observation, interviewing, and data analysis, as well as gain experience in reviewing and critiquing published research. Finally, we will examine some of the more complex issues surrounding the ethics of research with human subjects.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CJ 8222. Simulation Modeling. 3 Credit Hours.
Social organization involves complicated systems, such as organizations, institutions and families - and their component parts. The components of systems frequently interact in a complex fashion. Simulation models offer a useful approach to understanding this complexity. Simulation models allow for the creation of theoretically informed representations of complex dynamic systems. These representations can be used to conduct virtual experiments with the goal of strengthening theories and developing better designs for empirical research. The course covers different types of simulation modeling, but focuses on applications of Agent-Based Modeling. Students will gain experience developing conceptual models and programming simple simulation models.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CJ 8223. Risk, Prediction and Classification. 3 Credit Hours.
This course focuses on issues surrounding prediction and classification in criminal justice. We examine different perspectives on risk and danger, risk assessment models, the possibilities of accurate predictions, and the implications (practical, social, ethical) of prediction and classification in criminal justice. These include career criminal models and their repercussions in criminal justice policy, the role of risk assessment instruments in community corrections, inmate classification and release, and others. In addition to these practical applications, we will consider the implications of the increasing salience of the notion of "risk" in public and policy discourse.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CJ 8224. Drugs, Crime and Justice. 3 Credit Hours.
This advanced graduate course considers the problems of drug abuse, crime and the justice system's response to drug-related crime. A multidisciplinary perspective is used to analytically and critically explore these issues from social, legal, political, public health, enforcement, and criminological perspectives. Specific topics covered include theoretical explanations for drug abuse, drug legalization and decriminalization, drugs and violence, treatment alternatives to incarceration, public health effects, and mandatory sentencing laws for drug offenders. Readings, papers, and in-class discussions and formal debates are used to further students' understanding of the connections between drug abuse and crime, effective criminal justice responses to drug-related crime, and drug policies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CJ 8225. Rehabilitation, Reentry and Recidivism. 3 Credit Hours.
Numerous prison- and community-based approaches have been developed in recent years to help ex-offenders successfully reintegrate into the community. Promising in-prison approaches include comprehensive risk/needs assessment, drug treatment, cognitive behavioral treatment, vocational and basic education, prison industries, and prerelease planning. Community-based approaches include a wide range of options that provide reintegration assistance and linkages to community social services. In this class, we examine theoretical models of rehabilitation (e.g., principles of effective correctional intervention) and recidivism (e.g., life course and reintegration perspectives), including related research, and we investigate current re-entry initiatives at the national, state, and local levels.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CJ 8226. Transnational and Global Crime. 3 Credit Hours.
Global criminology is an emerging field covering international and transnational crimes that have not traditionally been the focus of mainstream criminology or criminal justice. This course will examine the diverse dimensions of global and transnational crime. Students will examine and discuss historical and contemporary patterns, modus operandi, capabilities, and vulnerabilities of global and transnational criminals and organizations. Course content includes an introduction to global and transnational crime, a discussion of the "problem" of global and transnational crime, a review of illicit activities of criminal organizations, an examination of the link between transnational crime and harms, and a review of contemporary approaches to combating global and transnational crime. The seminar will include a review of organized crime, corporate crime, cybercrime, and terrorism and war in Europe, Russia, the Middle East, Asia, Africa and The Americas.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CJ 8227. Contemporary Issues in Youth Crime: Gangs. 3 Credit Hours.
This course explores the modern urban street gang by investigating the extensive history of theory and research on street gangs. The first half of the course will attempt to answer such questions as: Why do youth and young adults join gangs? Why do they leave? Are street gangs similar to other deviant groups, delinquent networks and/or pro-social groups such as fraternities? The second half of the course will focus on the community response to gangs with a heavy emphasis on comparing and contrasting a variety of "evidence-based" models of gang prevention and intervention. By the end of the semester students will have an in-depth understanding of why the problems of gangs and gang violence remain so intractable today, and will be able to identify a number of areas where theory, research and practice have failed to connect.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CJ 8228. Race, Crime, and Justice. 3 Credit Hours.
The strong connection between race and crime in the United States occupies the discourse of media, policy-makers, and scholars, alike. This course considers the examination of race as a central concern for scholars of criminal justice especially in an era of mass incarceration. Specifically, we engage in the following questions: How large are racial and ethnic differences in criminal involvement? How do we theoretically construct and measure race and how do these measurements impact how we understand racial categories and crime? What are the implications of these “facts” on the popular understanding of the race-crime connection? What role do criminal justice apparatuses (police, courts, jails, for instance) play in reproducing and amplifying ideas about race and crime? Using various interdisciplinary theoretical approaches, we examine the complex ways in which race-crime-criminal justice is both a product of societal forces and an "engine" reproducing racial arrangements and power relationships in society.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CJ 8231. Environmental Justice. 3 Credit Hours.
By land, by sea, and by air, communities across America confront environmental problems, many of these arising from the commission of environmental crimes, and in response to which citizens and communities seek environmental justice. This course addresses structural issues in environmental justice and environmental crimes, environmental victimization, and the role of compliance in resolving issues of environmental justice.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CJ 8232. Crime Mapping. 3 Credit Hours.
Spatial distribution of crime and criminals is examined in relation to the geographic processes that influence this distribution. This course involves half seminar and half lab work. Seminars include the structure of geographic information and spatial analysis techniques, alongside spatial theories of crime and how these theories can explain crime patterns. Lab work instructs students in the use of GIS to map and analyze crime events, from the national level down to the city level. The GIS and crime mapping component assumes no prior knowledge of GIS, uses the latest ArcGIS software, and concentrates on crime in the City of Philadelphia. Note: Prior to fall 2016, the course title was "Geographical Perspectives of Crime."

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CJ 8233. Communities and Crime. 3 Credit Hours.
This course addresses the connections between features of community, and crime, fear and disorder, at various levels of analysis ranging from the community to the street block. It covers varying theoretical perspectives on these connections, with the aim of educating students in the relative strengths and weakness of these various perspectives. Students learn to apply these various perspectives and tools to case studies and actual locations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

CJ 8234. Criminal Victimization and Criminal Justice. 3 Credit Hours.
This course explores the problem of victimization [general vs. criminal], the types of victims [direct vs. indirect; individual vs. collective, etc.], and the harms involved [financial vs. physical vs. mental]. It also examines the fairness and efficacy of a wide variety of preventive, remedial, extra-legal and legal [civil, criminal] responses by society and by the criminal justice system. Emphasis is upon data sets and research studies shedding light upon the levels, correlates, dynamics, and consequences of major forms of victimization, as a basis for critical analysis of victimization theory and existing and potential laws, policies, programs, practices, and technologies for reducing its incidence and impact.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
CJ 8235. Criminal Justice Organization: Structure, Process and Change. 3 Credit Hours.
Criminal justice organizations are public bureaucracies; they aren’t typically worried about a financial bottom line. Their aims have to do with public safety, controlling criminals, and managing large populations of incarcerated individuals. The criminal justice system comprises a complex network of agencies and organizations that often pursue very different goals. Consequently, one reality of these organizations that we need to explore is how they work together to achieve common goals. We examine both criminal justice systems and criminal justice organizations from both structural and a behavioral perspectives. Our main purpose is to understand how they work so that we can, when it is desirable, change them, the way the relate to each other, and the way they relate to the larger society. We emphasize the manner in which criminal justice systems and their environments are changing, and the importance of capitalizing on those changes. Leadership and entrepreneurial thinking will be emphasized as well as structural approaches that foster development.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CJ 8236. Organized Crime. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CJ 8237. Program Planning and Evaluation in Criminal Justice. 3 Credit Hours.
Program evaluation is the systematic acquisition and assessment of information to provide useful feedback about a program. In other words, program evaluation facilitates improvements in program performance and outcomes. Evaluation also enables policy makers and funding agencies make decisions about continued support of a program or program replication. Students in this course will develop the capacity to develop and produce useful feedback. They will gain a thorough knowledge of the methods of program evaluation, from the point of framing the goals of the evaluation to communicating findings. Topics will include: assessing the evaluability of the program, logic models and theories of change, formative and summative evaluations, experimental and quasi-experimental designs, data sources and data collection, analyzing and interpreting data, reporting findings, the utilization of results, and synthesizing findings across evaluation studies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CJ 8302. Advanced Methods and Issues in Criminal Justice Research. 3 Credit Hours.
Course involves students in hands-on activities allowing them to learn how to conduct and evaluate different types of research approaches commonly used in criminal justice. Course assumes a solid grounding in graduate-level research methods, and strong multivariate quantitative skills. These "learning by doing" activities, ideally organized around a single topic and conducted for a specific client, are complemented by high level discussions of and readings about key ongoing philosophical, pragmatic, and policy related research issues, and how those issues apply to and play out in the fields of criminal justice and criminology.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CJ 8305. Advanced Statistical Issues in Criminal Justice Data. 3 Credit Hours.
Focuses on multivariate statistical techniques particularly important in criminal justice research questions. Course may cover multilevel modeling, or other techniques important to the discipline such as time series, clustering, and automatic interaction detection.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

CJ 8310. Special Topics Seminar. 3 Credit Hours.
Special topics in criminal justice research are examined. Special topics courses are developed to cover emerging issues or specialized content and they do not repeat material presented by regular semester courses.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

CJ 8320. Seminar in Criminal Justice Policy. 3 Credit Hours.
Special topics in current criminal justice policy are explored. Special topics courses are developed to cover emerging issues or specialized content and they do not repeat material presented by regular semester courses.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.
CJ 8330. Seminar - Advanced Research Topics. 3 Credit Hours.
Advanced topics in criminal justice and criminological research are explored.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CJ 9082. Independent Study. 1 to 3 Credit Hour.
Permits individualized study of a specific topic in consultation with a faculty member. Not intended as a substitute for any required course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CJ 9083. Directed Readings. 1 to 9 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CJ 9982. Research Seminar in Criminal Justice. 3 Credit Hours.
Fulfills part of the research requirements for the student working toward completion of the Ph.D. Involves advanced reading and research in areas agreed upon by the Ph.D. student and professor. Includes group and individual meetings. Aim is an advanced research paper by the student that may focus in an area related to the proposed doctoral research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CJ 9991. Directed Research. 1 to 9 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CJ 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CJ 9996. Thesis Research. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CJ 9998. Pre-Dissertation Research. 1 to 6 Credit Hour.
Registration required each semester after Preliminary Examinations while researching the dissertation proposal.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

CJ 9999. Doctoral Dissertation Research. 1 to 6 Credit Hour.
Restricted to students who have passed the Preliminary exams and filed an approved proposal with the Graduate School.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.

Dance (DANC)
Courses

DANC 8801. Dance Techniques. 1 Credit Hour.
This course provides insight to the choreographic process of a master choreographer through learning and performing a major work.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8803. Rhythm: Analysis, Performance and Composition. 3 Credit Hours.
This course offers students the opportunity to engage in a comprehensive study of rhythm as a dance-related discipline at the graduate level. It focuses on the basic elements of rhythm and movement, and how these develop the student’s understanding of motion as a sequence of effort and rest. Capacities for analysis and performance of rhythm within dance and musical contexts will be cultivated.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8804. Dance and the Child. 3 Credit Hours.
This course addresses theories of child development and learning as they relate to the teaching of dance in K-12 education. Content is organized around a series of questions that a dance teacher might have regarding how their students are experiencing dance in a school setting. Topics include developmental milestones and their impact on dance curriculum, integration of dance into the broader school curriculum, and cultural issues in dance education. Students gain hands-on experience in a peer teaching setting and begin to build concrete resources for teaching dance in K-12 settings. This course satisfies the elementary education coursework requirement for the K-12 Dance Teacher Certification through the Bureau of Career and Technical Education.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8805. The Dancer and the Dance Medium. 1 Credit Hour.
A core course required of all entering graduate students. Participants engage in independent and collaborative inquiry to elucidate individual values and understandings of dance in a social learning context. Class projects include development and performance of personal dance histories and peer presentations based on areas of student expertise or interest. Emphasis is on clarification of personal voice as an important source of goal setting in graduate dance education.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8806. The Creative Process and the Dance Symbol. 3 Credit Hours.
This core course deals with sources and processes for creative transformation. The class examines the individual as an artist and explores various influences, congruencies, symbols and meanings affecting the art form today. It is a studio course with assignments ranging from reading and writing to choreographing and performing.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
DANC 8808. Corporeal Improvisation. 1 to 2 Credit Hour.
This course lays the groundwork for dance improvisation as technique, as inquiry, and as performance. Exercises to develop and deepen an experiential understanding of anatomy and physical laws serve to expand physical range and imagination. Practice of improvisational directives and personal experimentation of movement concepts and the elements of dance increase awareness of individual stylistic and movement preferences and strengths, as well as areas of weakness.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

DANC 8809. Graduate Repertory. 2 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

DANC 8812. Performance Environments I: Dance Production. 2 Credit Hours.
Students master basic technical theater skills, and encounter design theory and practice, with emphasis on preparing them to serve as stage managers, and expose them to the vocabulary and objectives in costume, lighting, set design, theater make-up, the use of projections, and specifications for creating theater in non-theatrical spaces.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8815. Performance Environments II: Producing Dance. 2 Credit Hours.
A professional and practical course emphasizing the development of tools and skills necessary for realizing individual goals, vehicles, and processes for change in the various fields of dance and related arts within our society.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8821. Modern Dance Technique I B. 1 to 2 Credit Hour.
This course addresses the development of basic movement skills and concepts as a means toward effective performance.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

DANC 8822. Modern Dance Technique II A. 1 to 2 Credit Hour.
This course addresses the development of basic movement skills and concepts as a means toward effective performance.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
DANC 8821|Minimum Grade of C-|May not be taken concurrently.
DANC 8823. Modern Dance Technique II B. 1 to 2 Credit Hour.
This course addresses the extension of range, control, and clarity of performance for more complex dance sequences.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
DANC 8821|Minimum Grade of C-|May not be taken concurrently.

DANC 8824. Modern Dance Technique III A. 1 to 2 Credit Hour.
This course addresses the extension of range, control, and clarity of performance for more complex dance sequences.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
DANC 8823|Minimum Grade of C-|May not be taken concurrently.

DANC 8825. Modern Dance Technique III B. 1 to 2 Credit Hour.
This course addresses increased technical accuracy, sensitivity, and versatility of performance. The dance material offered covers a wide range of spatial, dynamic, and rhythmic qualities.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
DANC 8824|Minimum Grade of C-|May not be taken concurrently.

DANC 8826. Modern Dance Technique IV A. 1 to 2 Credit Hour.
This course addresses increased technical accuracy, sensitivity, and versatility of performance. The dance material offered covers a wide range of spatial, dynamic, and rhythmic qualities.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
DANC 8825|Minimum Grade of C-|May not be taken concurrently.

DANC 8827. Modern Dance Technique IV B. 1 to 2 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

DANC 8828. African I. 1 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8829. African II. 1 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
DANC 8831. Intro Laban Movement Analysis. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8832. Ballet Technique II. 1 Credit Hour.
This course provides further skills in basic classical ballet vocabulary and preparation for professional study at the intermediate level.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

DANC 8833. Ballet Technique III. 1 Credit Hour.
This course addresses advanced vocabulary and skills for increasing demands of more complex combinations and sequences.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
DANC 8832|Minimum Grade of C-|May not be taken concurrently.

DANC 8834. Ballet Technique IV. 1 Credit Hour.
This course provides movement experience to develop confidence and skill for an authoritative and expressive performance. The full range of classical ballet vocabulary is used.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
DANC 8834|Minimum Grade of C-|May not be taken concurrently.

DANC 8835. Dance on Video. 3 Credit Hours.
A hands-on course exploring the practical and aesthetic considerations in recording dance. Video equipment and recording techniques will be introduced, with a survey of selected dance video works.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8836. Pointe I. 1 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8837. Pilates: Body Condition. 1 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8838. Pilates II: Applications. 1 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
DANC 8839. Movement Theater Workshop. 3 Credit Hours.
This course is designed to provide intensive experience exploring the whole body as a medium for theatrical expression, and developing group collaborative processes.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8841. Apprenticeship in Dance. 1 to 6 Credit Hour.
Designed to allow the student to practice, challenge, and expand artistic skills in a professional environment, and under the guidance of a mentor. Credit will not be awarded retroactively.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

DANC 8842. Graduate Jazz Dance Level II. 1 Credit Hour.
This course provides a more sophisticated approach to jazz dance vocabularies and sensitivities used in contemporary dance and theater.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8843. Graduate Jazz Dance Level III. 1 Credit Hour.
This course provides a complete integration of the approach to jazz dance vocabularies and sensitivities used in contemporary dance and theater.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
DANC 8843|Minimum Grade of C-|May not be taken concurrently.

DANC 8845. Sound and Movement Partnerships. 3 Credit Hours.
With its basis in 20th-century or modern performing arts, this course offers both a practical and a philosophical perspective on essential topics of sound and movement partnership in an effort to train the eye and ear to perceive dynamic relationships between sound and movement. Critical to this class are the investigation of performance and composition skills and the critical discussion of choreographic issues. This class in music and dance composition challenges student choreographers to discover inventive sound and movement partnerships for the creation of new work.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8847. Choreographing Philadelphia. 3 Credit Hours.
This intensive course addresses the city of Philadelphia - its history, geography, architecture, infrastructure, people, and dancing communities - as subject and site for the creation of choreography. Working solo and in teams students explore a variety of approaches to creating work in and about the city.

Department Restrictions: Must be enrolled in one of the following Departments: Music:Dance.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
DANC 8848. Modal Practice, Structure and Performance. 3 Credit Hours.
This intensive studio course explores the practice and application of uni-focal creative research methodologies for training the body, movement invention aligned to conceptual intent, and creating choreography that elicits meaningful and personally invested performance.

Department Restrictions: Must be enrolled in one of the following Departments: Music:Dance.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8849. Studio Research. 1 Credit Hour.
This course takes place every semester and it operates as an opportunity for students to engage in independent studio practice (both through dance technique and composition) within a mentored framework. This course is conceived as a 'practice laboratory' in which students will be required to maintain and reflect upon their embodied learning and to pursue new lines of choreographic enquiry.

Department Restrictions: Must be enrolled in one of the following Departments: Music:Dance.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

DANC 8851. Choreographic Projects. 1 to 6 Credit Hour.
Graduate students develop original work with the guidance of dance faculty. The course culminates in the performance of the new work developed in the class in a final showing with modest technical elements.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

DANC 8852. Non-Western Dance Traditions. 3 Credit Hours.
This course is an overview of dance traditions outside North America with the exception of selected Native American traditions. The course includes movements from Asian, African, South American, and Pacific Rim traditions. The goal is to increase the student's knowledge of dance traditions; further their understanding of spatial, religious, and social restrictions on the dances; and inform their choreographic processes by exposure to different ways of constructing movements. This is primarily a studio course with assignments geared to choreographic inquiries that extend the student's aesthetic parameters in terms of movement vocabulary and structure.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8853. Lighting Design for Dance. 2 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8859. Dancing the City. 3 Credit Hours.
In Dancing the City students explore the research methods of two powerful modes of inquiry - oral history and dance ethnography - in order to study the dance companies, communities of practice, and artists who interact in the unique spaces and dynamic social patterns of the city. Students theorize and think critically about the concepts of "space" and "the city," as they conduct individual research studies on dance in its various socio-cultural manifestations in the city. NOTE: Prior to fall 2015, the course title was "Writing the City."

Department Restrictions: Must be enrolled in one of the following Departments: Music:Dance.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
DANC 8861. Dancing Self in Community. 3 Credit Hours.
This course provides a site for autobiographical and community practice research. It enables a diverse entering body of graduate students to retrieve, situate, and articulate their personal histories in dance, including clarification of aesthetic values, both tacit and theorized, and to contribute their individual voices to a community performance project.

Department Restrictions: Must be enrolled in one of the following Departments: Music:Dance.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8862. Embodied Craft. 3 Credit Hours.
This is a studio course that also uses readings, group discussion, contemplative practices and writing to inform students’ choices about all the elements necessary to craft dance including movement invention, spatial considerations, sound, music, silence, choreographic devices, performance arenas and dancers.

Department Restrictions: Must be enrolled in one of the following Departments: Music:Dance.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8865. Dance Science & Somatics. 3 Credit Hours.
Somatic exploration and conceptual comparison of three systems of movement awareness and transformation/rehabilitation: ideokinetic facilitation (Sweigard), body mobilization in space (Bartenieff), and traditional sports/dance medicine. Six themes are interwoven through the course: physiological bases of dance training; conditioning to address individual needs in dance training; the causes, pathology, care, rehabilitation, and prevention of dance injuries; dancers and wellness; application of motor learning and control to dance pedagogy; and mental imagery to enhance performance.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8866. The Body Politic. 3 Credit Hours.
The course will conduct a multi-site exploration of “the body politic” as an everyday expression, as the creative formation of modern experience and personhood, as stimulation, as geography, as historical memory and as transcultural signification. This course will focus on introducing students to selected core theories of dance culture and cultural studies as it relates to the body politic.

Department Restrictions: Must be enrolled in one of the following Departments: Music:Dance.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8867. Educational Inquiry in Dance. 3 Credit Hours.
Students in the MA, MFA and PhD Dance programs design, implement, and evaluate an exploratory/pilot study in a selected area of dance education. The study may involve action research/fieldwork, curriculum design, advocacy, educational internship, or other form of inquiry relevant to education in and through dance.

Department Restrictions: Must be enrolled in one of the following Departments: Music:Dance.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
DANC 8868. Graduate Seminar. 2 Credit Hours.
This course provides an overview of methods and materials for producing choreographic work and securing teaching employment in an evolving field. Emphasis will be placed on developing materials that reflect each student’s personal mission statement and career objectives.

Department Restrictions: Must be enrolled in one of the following Departments: Music:Dance.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8869. Dance Teaching Seminar. 2 Credit Hours.
This course assists graduate students in developing a sound basis for their continued growth and effectiveness as dance educators. Grounded in theories of holistic education, critical pedagogy, and reflective practice, the course integrates studio experiences, observation, theoretical inquiry, and teaching practice to examine key values adhering to the noble profession of "dance teacher."

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8871. Apprenticeship in Teaching Dance. 1 to 3 Credit Hours.
This course provides a supervised internship in teaching dance supported by video assessment, one-to-one mentoring, and peer discussion groups.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8872. Educating Dance. 3 Credit Hours.
This course addresses philosophical, historical, and contemporary perspectives in dance education. Topics include: history of education and arts/dance education, philosophical foundations of dance as a mode of learning, critical and feminist pedagogies in dance, social issues in dance teaching and learning (gender, sexuality, race, ethnicity, culture, ability, age), and recent developments in cognitive neuroscience (embodied cognition) and technology.

Department Restrictions: Must be enrolled in one of the following Departments: Music:Dance.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8873. Concepts of Culture. 3 Credit Hours.
"Concepts of Culture" is a graduate course that seeks to show how dance practice is shaped through cultural production and how the moving body has the capacity to maintain, negotiate or re-imagine the social context in which it exists. It explores the meanings and values of "culture" and conceives culture as a site of contested power relations through which dominant structures are both maintained and challenged.

Department Restrictions: Must be enrolled in one of the following Departments: Music:Dance.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
DANC 8874. Foundations of Cultural Studies. 3 Credit Hours.
This course examines performance structures, social paradigms, and dominant themes. The course is taught from a comprehensive, comparative perspective of intersecting identities, including race, gender, class, and sexuality by examining and discussing major theorists in the field and analyzing performances based on those theorists. This course also traces the intellectual heritage of cultural studies vis-a-vis scholars, artists, educators, activists, workers, and community members. The lectures, readings, video viewings, discussions, and movement experiences attempt to examine the diversity and similarities in cultures.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8875. Arts Advocacy. 3 Credit Hours.
This course provides information, models and practical design experience in advocacy for dance in various settings. Emphasis is on pertinent literature, current trends, and practice guided by student professional goals.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8876. Dance as a Mode of Learning. 3 Credit Hours.
This course integrates philosophical/historical perspectives of dance as a mode of learning with critical analysis of existing curriculum frameworks and a curriculum design project.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8877. Dance Administration. 2 Credit Hours.
This course studies and analyzes historical, philosophical, and practical aspects of arts and dance administration. Emphasis is on practical skills, including curricular, administrative, and fiscal design and structures.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8878. Graduate Dance Composition. 2 Credit Hours.
A course designed to confront the elements of dance composition through improvisation, short movement studies, and dances that are presented, discussed, and reworked in class. A final composition demonstrates skills, sensitivities, and understandings acquired.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 8879. Prof Portfolio Evaluation. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 9800. Special Topics in Dance. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.
DANC 9801. Research Methods in Dance. 3 Credit Hours.
The course provides a foundational introduction to theories, methodologies, questions, and themes in contemporary dance research and fosters the capacity for students to develop a critical and analytical voice, as well as independent research skills. Students will immerse themselves in key texts (verbal, audio-visual, and kinesthetic) that illuminate epistemological foundations, historical trends, current practice, and future directions of dance as a mode of human inquiry.

Department Restrictions: Must be enrolled in one of the following Departments: Music:Dance.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 9804. Neoclassicism and the Baroque Revival in Twentieth-Century Dance and Culture. 3 Credit Hours.
This seminar explores tensions in the field of neoclassical ballet and the baroque dance and music revival - both significant aspects of modernism and postmodernism - in the critical context of tradition vs. classicism, and the early twentieth-century phenomenon of the rediscovery of seventeenth-century French culture. We examine the imbrication of these questions with the rise of fascism in the early twentieth century and the return of the baroque since the 1950s and 1960s, which reached an apogee in the 1980s in both Western Europe and the United States.

Department Restrictions: Must be enrolled in one of the following Departments: Music:Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

DANC 9806. Somatic Theater. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 9831. Moving Across Genres. 3 Credit Hours.
This is a three (3) credit course in which we examine performance genres, social parameters, and discourse language. In this course we will investigate problematizing language in dance genres. Ballet as a lingua-franca, the specific language of selected Indian dances, hip-hop language and divisions such as old school, new school, traditional and neo-traditional, classical and neo contemporary and modern and contemporary dance will be discussed in relation to their relevance and viability to dance studies.

Department Restrictions: Must be enrolled in one of the following Departments: Music:Dance.
Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 9841. Experience, Engagement and Multi-Sensory Inquiry. 3 Credit Hours.
This course focuses on theories and methods that view human experience and embodiment as the ground of knowledge and meaning making. The course is informed by diverse sources including life experience, dance, phenomenology, existentialism, humanistic sociology, psychoanalytic theory, cognitive neuroscience, and aesthetics, particularly the emerging field of bio-aesthetics.

Department Restrictions: Must be enrolled in one of the following Departments: Music:Dance.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 9851. Black Performance. 3 Credit Hours.
Using a chronological and geographical approach, this course traces performance trends in dance, music, and theater from West Africa to the Caribbean to the U.S. Examples of commonality and continuity are explored in selections from Yoruba, Akan, Vodun, and African genres.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
DANC 9852. Dancing the Popular. 3 Credit Hours.
Dancing the Popular is a doctoral course that seeks to examine "popular dance" within its multiple contexts of production, circulation, consumption and participation. It takes as its starting point the notion of "the popular" as a contested and value-laden category and explores how historically-located definitions conceive "popular culture" in a variety of ways.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 9861. Dance and the Gendered Body: Historical Perspectives. 3 Credit Hours.
Students learn ways of analyzing representations of women, men, people of color, sexualities, and class distinctions in dance performance situated in different historical periods, cultural contexts, and performance venues. Students learn how to write historical narratives by locating primary sources and discovering the different voices/perspectives involved in a particular dance production, genre, ritual, performance, and practice. The course culminates in an ensemble performance based on individual research projects and reflexive understanding of how the researcher's identity intersects with the research. The emphasis is on research as performance and performance as research.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 9862. Bodies, Texts, History. 3 Credit Hours.
Using an approach that intertwines a historical mode of inquiry of dance productions/ performances/practices with gender theory/queer theory, this course explores historically and culturally specific topics in dance. In other words, the approach to dance history will be topical rather than chronological, and guided by the diversity of student research agendas.

Department Restrictions: Must be enrolled in one of the following Departments: Music:Dance.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 9875. Meaning in Dance. 3 Credit Hours.
This course focuses on methodologies for dance research that start with human experience (phenomenology, autobiography, autoethnography, and humanistic sociology) as the generative ground of meaning making. Students engage with multiple perspectives and layered practices to illuminate "lived experience" in dance. In a guided seminar setting, each student completes an annotated bibliography, a critical review of the literature, and/or a research study related to a topic of individual interest. Students present their work, at various phases of development, to their peers for critical review.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 9883. Dir Study in Dance Research. 1 to 4 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

DANC 9889. Dance Field Experience. 1 to 3 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.
DANC 9951. Aesthetic and Philosophical Inquiry. 3 Credit Hours.
Designed to introduce, analyze, and teach students to employ aesthetic and philosophic methods of inquiry to dance. Selected written and performance texts demonstrate various pathways research might travel to unveil the philosophic bases of dance.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 9956. Research Structure: Dance Ethnography. 3 Credit Hours.
This course covers a range of methods, techniques, and ethical concerns in dance research, including ethnographic methods and techniques of oral interview. In a guided seminar setting, each student develops an original research plan of design and presents it to her/his peers for critical evaluation.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

DANC 9984. Master's Concert in Dance. 1 to 6 Credit Hour.
Limited to those who plan to earn the master's degree by completing a major choreographic work. Normally not taken before the fifth or sixth semester of study and after the completion of a minimum 42 credits, including all required coursework in choreographic skills and resources and stage managing, as well as comprehensive exam requirements.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

DANC 9991. Directed Research-Dance. 1 to 3 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

DANC 9994. Preliminary Examination Preparation. 1 to 3 Credit Hour.
The student demonstrates the ability to complete independent academic projects by preparing a course proposal and an article judged to be of sufficient quality to be published in a professional journal.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

DANC 9995. Master's Project in Dance. 1 to 6 Credit Hour.
Limited to those who plan to earn the master's degree by completing a project. The final project option for Ed.M. candidates who register for 3 s.h. Also available to M.F.A. candidates for a 6 s.h. final project if decided in advisement with major curriculum advisor.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

DANC 9996. Master's Thesis in Dance. 1 to 6 Credit Hour.
Limited to those who plan to complete the master's degree by writing a thesis. Note: This option is available only to those who have successfully completed DANCE 9951: Aesthetic and Philosophical Inquiry. Registration is done in advisement with major advisor.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.
DANC 9998. Pre-Dissertation Research. 1 to 3 Credit Hour.
The student prepares a proposal for dissertation research with guidance from the major advisor. The proposal is formally presented before the Sponsoring Committee and, if approved, passes on to the Graduate School, where it must be approved before the student can be advanced to candidacy. Student must have passed preliminary examinations to enroll.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

DANC 9999. Doctoral Dissertation. 1 to 9 Credit Hour.
The dissertation is advised by the major advisor and the two additional faculty members of the Sponsoring Committee. At the time of defense, one or two faculty members are added, comprising and examining committee of at least four members.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Dance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.

Dental Public Health Sciences (DPHS)

Courses

DPHS 5089. Planning and Evaluation of Field Experience in Dental Public Health. 1 to 4 Credit Hour.
The overall goal of this course is to provide students with practical experience in the planning, development and/or conduct of an oral health program/project/study. This course will require a statement of objectives and planned procedures prior to the field placement in a selected affiliation site. This will be prepared by the student, working in concert with the advisor and field supervisor. The student will also be required to present a formal evaluation report of the field experience to his or her advisor after its completion. The field supervisor will be asked to complete an evaluation form on the resident's performance. This evaluation will then become part of the resident's file, and a permanent record that the field experience was completed satisfactorily.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Dentistry, Graduate.

Repeatability: This course may be repeated for additional credit.

DPHS 8001. Foundations of Dental Public Health. 3 Credit Hours.
This course is the dental public health student's introduction to the discipline. It presents a social and historical context for dental public health, and provides a basis for the more detailed examination of other aspects of the discipline which are covered in other courses. Students will learn about the public agencies and professional organizations involved in dental public health activities, and will have the opportunity to compare and contrast the structure of public health dentistry in the U.S. with that in other countries. Recent activities, projects, and publications in dental public health will be discussed. Practitioners in dental public health need to be able to locate information efficiently, to appraise its value, and to use that information in writing and speaking. They need to be confident in their ability to write clearly and to speak assertively in public. This course aims to provide students with the necessary skills and knowledge needed to locate information, judge its quality, and present critical summaries using written and oral communication. The course also allows students to develop confidence in their writing and public speaking.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Dentistry, Graduate.

Repeatability: This course may not be repeated for additional credits.

DPHS 8002. Administration in Dental Public Health. 2 Credit Hours.
This course is designed to address the following topics: Models of public organization, administrative decision-making, patterns of administrative communications, role and function of administrative leadership, nature and function of public personnel and fiscal management systems, planning, operating, and evaluating dental public health programs, quality assurance, budgeting, legislative issues and environmental hazards in the dental office.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Dentistry, Graduate.

Repeatability: This course may not be repeated for additional credits.
DPHS 8003. Epidemiology and Prevention of Oral Diseases. 3 Credit Hours.
This is a comprehensive course in the philosophy, principles, and methods of study in the epidemiology and prevention of oral diseases and their interrelationships between oral and systemic health. Topics related to the epidemiology of oral diseases include measurement techniques, casualty, risk factor identification, study designs, sampling concepts, and the distribution of oral diseases and conditions in populations. The scientific basis for procedures and programs to prevent oral diseases is also examined, with emphasis on public health applications. Topics related to the prevention of oral diseases include water fluoridation, other fluoride programs, pit-and-fissure sealants, diet, nutrition, oral hygiene, chemotherapeutics, and screening programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Dentistry, Graduate.

Repeatability: This course may not be repeated for additional credits.

DPHS 8004. The Role of Behavioral Science in Dental Public Health. 1 Credit Hour.
This is a seminar course on the principles and methods of study in behavioral sciences and the application to dental public health. Topics will include behavioral science research methods, basic principles of human behavior, behavioral science strategies and interventions aimed at promoting oral health. Motivational interviewing as an intervention to promote oral health will be reviewed. The topics will be presented with an emphasis on public health applications.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Dentistry, Graduate.

Repeatability: This course may not be repeated for additional credits.

DPHS 8005. Provision and Financing of Dental Public Health. 2 Credit Hours.
This course will cover topics such as: Overview of fee-for-service private practice and salaried practice, detailed examination of traditional insurance in general health and dental plans, managed care in general and dental plans, HMOs, Medicaid, evolution of current plans and some projections into the future developments, types of dental personnel and social, economic, and political factors determining their supply and deployment.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Dentistry, Graduate.

Repeatability: This course may not be repeated for additional credits.

DPHS 8007. Analysis of Oral Dental Health Data. 1 Credit Hour.
The overall goal of this course is to provide students with a practical knowledge and understanding of the design and conduct of oral epidemiological research projects, data analysis, interpretation, and reporting of the results. The students will apply the knowledge learned from foundation courses to define research questions and hypotheses, select study design, develop or select measurement tools, collect and manage data, conduct statistical analysis, and report the findings. The course will focus on analysis of oral health related measurements and the statistical analysis of dental data which are usually clustered because of the presence of multiple sites within a mouth. Analysis of complex health data (e.g., multiple and correlated data such as dental caries) and data from complex sample design will also be discussed. Ethical conduct of research will be reviewed and discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Dentistry, Graduate.

Repeatability: This course may not be repeated for additional credits.

DPHS 9991. Research in Dental Public Health. 1 to 9 Credit Hour.
The overall goal of this course is to provide students with the knowledge and understanding related to the principles and methods used in epidemiologic study of dental diseases. Philosophy of the science, study designs, strengths and limitations of different designs. IRB protocol development, consent, design, methods, conduct and analysis of a research project will be developed within this course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Dentistry, Graduate.

Repeatability: This course may be repeated for additional credit.

**Disability Studies (DSST)**

Courses

DSST 5401. Disability Rights and Culture. 1 to 3 Credit Hour.
This course provides a socio-historical survey of the political, economic, social and cultural relations between disabled and non-disabled society in America. Topics such as the social construction of disability and the changing experiences of persons with disabilities are discussed in the context of other civil rights movements and the broader evolution of social policy.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
DSST 5402. Action Modes of Research. 3 Credit Hours.
This course explores the foundations of collaborative and action research. There will be a strong focus on the sets of beliefs that lead to and underlay action research, and how these beliefs are different from traditional paradigms. Students will also work on the practical means by which those affected by research are included in its design. Readings and discussion will focus particularly on disabilities, but will also include considerations of gender, race, class and sexual orientation.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

DSST 5403. Disability and Social Policy. 1 to 3 Credit Hour.
This course examines public policy in the U.S.; particularly the influence of recent Congressional actions and judicial decisions in the areas of education, health care, human development, rehabilitation and employment of individuals with disabilities. Will examine the origins, goals and target populations for these policies and the extent to which policies are consistent with each other, and will assess the effectiveness of policies and the impact they have on people's real lives, including people with disabilities, family members and professionals. Note: Cross-listed as SOC ADMIN 0654.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

DSST 5404. Health and Wellness for Persons with Disabilities. 3 Credit Hours.
This course is designed to introduce students to the meaning of health and wellness for individuals with disabilities. A biopsychosocial model will be used to examine the various dimensions of health. Students will examine the role(s) that theoretical understandings of health behaviors, societal values and systems, and demographic factors have in facilitating or inhibiting wellness. The course will also explore the supports people with disabilities may require in order to achieve and maintain health and wellness. Note: Cross-listed as THER REC 0521.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

DSST 5405. Disability Studies in the Humanities. 1 to 3 Credit Hour.
Interest in Disability Studies is exploding in the humanities disciplines. The focus and content of this course will depend upon the interests of faculty and graduate students. Possibilities include: Health and Disability in American History; Disability and Performance Studies; Disability in American Literature; Imaging Bodies World Film' Cross-Cultural Disability Studies.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

DSST 5501. Introduction to Disability Studies. 1 to 3 Credit Hour.
Only available to students who are research assistants and externs of the Institute on Disabilities. Special authorization required.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

DSST 9489. Field Work in Disability Studies. 1 to 3 Credit Hour.
This course provides experiential learning in the experiences of persons with disabilities. Students are assigned to work with and be mentored by persons with disabilities and their families. Sites will be selected in collaboration with each student's development.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

## Distributive Education (DSED)

### Courses

DSED 5422. Methods of Teach Mkt Edu. 3 Credit Hours.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

DSED 5522. Trends in Distribution. 3 Credit Hours.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.
Early Childhood Education (ECED)

Courses

ECED 5106. Early Literacy and Language Development: Birth-Kindergarten. 3 Credit Hours.
The aim of this course is to provide students with foundational knowledge about the development of early language and literacy skills, their role in later reading and academic success, and the instructional practices that best support them. Students will develop essential practices for building early language and literacy competence in diverse classroom settings. This course includes 20 hours of stages 1, 2, and 3 field experience competencies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECED 5107. Mathematics Education for the Early Years: PreK-4. 3 Credit Hours.
The aim of this course is to provide preservice teachers (PTs) with essential mathematical knowledge for teaching early mathematics based on an integration of research and practice. In particular, PTs will obtain deep content understanding of the key mathematical topics, relevant knowledge of children’s mathematical thinking, and pedagogical design ability such as task analysis and lesson planning. In addition, PTs will develop critical thinking skills that allow them to critically analyze the existing learning environment (e.g., textbooks and instruction) and essential practices for building early mathematics competence in diverse classroom settings. This course includes 20 hours of stages 1, 2, and 3 field experience competencies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECED 5108. Social Studies Education for the Early Years: PreK-4. 3 Credit Hours.
The focus of this course is the development of social skills in young children and how they lay a critical foundation for citizenship in an evolving democracy. The course will include theories of social education and the developmental learning processes of civics, economics, history, and geography in young children in K-4 educational settings. Diversity and culture are central aspects of the course as they relate to ways that children, families, schools, communities and teachers view and interact in shared communities of learning. This course includes 20 hours of stages 1, 2, and 3 field experiences.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECED 5109. Science Education for the Early Years: PreK to 4. 3 Credit Hours.
This course will draw on science practices, instructional technology (e.g., video vignettes of classroom activities and science websites), and collaborative lab-based activities to explore current issues of teaching and learning science in the pre-K and early elementary school classroom. This course includes 20 hours of stages 1, 2, and 3 field experience competencies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECED 5206. Literacy Foundations for the Primary Grades: First through Fourth. 3 Credit Hours.
The main focus of this course is to develop knowledge of the theories, methods, and materials that can be used to teach reading and writing concepts and skills in the elementary classroom (from late kindergarten through fourth grade). There will be an emphasis on conceptual knowledge as well as specific procedural knowledge needed to implement effective, research-based practices. Furthermore, policy issues affecting literacy instruction and practices will also be addressed. This course includes 20 hours of stages 1, 2, and 3 field experience competencies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECED 5370. Sem Early Child Lit Edu. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Earth and Environmental Science (EES)
Courses

EES 5011. Remote Sensing and GIS. 4 Credit Hours.
The focus of this class is on remote sensing technologies and geographic information systems. Remote sensing is a dynamic field; new, high-resolution satellites are coming on line almost daily, and there has been an exponential growth in applications of remote sensing data during the past decade, including: mineral exploration, precision agriculture, watershed management, land use classification, military intelligence, and climate monitoring. By the end of the semester you will have a fundamental understanding of the uses and limitations of remote sensing data for environmental applications, and a thorough familiarity with geographic information systems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EES 5042. Coastal Processes. 4 Credit Hours.
The course will apply a process geomorphological approach to understanding coastal behavior, including global distribution of coasts, wave and tidal hydrodynamics, nearshore and aeolian sediment transport, and morphological signatures of extreme events.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EES 5101. Structural Geology (Graduate). 4 Credit Hours.
The purpose of this course is to train students in the concepts and techniques of structural geology. Students will learn how to collect, analyze, and interpret geologic data drawn from a variety of disciplines pertinent to structural geology and present a cohesive analysis and interpretation of these results. Results are presented as maps, reports, and computer models. A hypothesis driven term project will be conducted by the graduate student on a topic in structural geology. NOTE: This course differs from the undergraduate version EES 4101 through graduate specific laboratory and exam questions, readings, and the term project.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EES 5401. Analytical Methods in Mineralogy. 4 Credit Hours.
An introduction to the theory and application of X-ray diffraction and spectroscopic techniques for analysis of mineralogical samples. Students will learn the theory underpinning these methods, acquire skills in instrument operation, and apply these skills to research-relevant problems such as phase identification, site occupancy, chemical analysis, and planetary surface studies. Techniques discussed include powder X-ray diffraction, visible, Raman, and infrared spectroscopy, and synchrotron-based X-ray spectroscopic and scattering techniques.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EES 5402. X-ray Crystallography. 4 Credit Hours.
Generation and use of x-rays for diffraction analysis; Analysis of clays and related minerals by x-ray diffraction; Crystal structure patterns and biogeochemical functions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EES 5406. Environmental Nanogeoscience. 4 Credit Hours.
Nanotechnology has developed rapidly in the past decade, yet our knowledge of its environmental impact, particularly regarding the fate and behavior of nanomaterials in the environment, lags far behind. This course will cover a range of topics concerning nanomaterials in the environment, ranging from the unique size-dependent properties of nanomaterials to their applications in environmental remediation. The lab component of this course will include nanomaterial synthesis and characterization; nanomaterial transport, aggregation, deposition, transformation, and persistence in natural settings; environmental applications of nanomaterials; and nanomaterial characterization techniques, particularly electron microscopy.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
EES 5434. Ecohydrology. 3 Credit Hours.
Hydrological and ecological processes are tightly interrelated, with vegetation affecting the hydrological cycle, and hydrologic partitioning of the water budget affecting vegetation dynamics. This course builds on perspectives from ecology, hydrology, and soil science to focus on the emerging, interdisciplinary area of ecohydrology - the science that studies mutual interaction between the hydrological cycle and ecosystems. The first part of the course will deal with fundamental processes controlling the flow of water in the biosphere (in land, atmosphere, soil and plants) and the interactions with ecological processes and human dimensions at different scales. The second part will deal with the implications of ecohydrological feedbacks, covering a broad range of issues including global environmental change, land use change, global desertification/land degradation, urbanization, soil erosion, and the food-energy-water nexus. The concepts and principles discussed in the class will have broad applications ranging from finding innovative solutions to ecosystem degradation and food security, and designing global change responses.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EES 5445. Introduction to Geophysics. 4 Credit Hours.
An introduction to gravity, magnetic, electromagnetic, and seismic exploration methods. Applications include environmental characterization, oil and mineral exploration, geotechnical engineering, and archeology.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EES 5461. Low-Temperature Geochemistry. 4 Credit Hours.
Principles of aqueous geochemistry discussed within the framework of geologic processes. One or two field trips.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EES 5625. Electron Optical Techniques. 4 Credit Hours.
This course will introduce the microanalytical and imaging methods of electron optical instruments such as the Electron Probe Microanalyzer (EPMA) and the Scanning Electron Microscope (SEM). The theory and operation of the instruments will be covered as will the interpretation of images and analytical results.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
EES 5702. Sedimentary Petrology. 4 Credit Hours.
This course explores the basic composition and texture of sedimentary rocks in order to understand depositional environment and provenance. This course focuses on sedimentation mechanics, petrography, and diagenesis. Includes a lab.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EES 5725. Soils and Paleosols. 4 Credit Hours.
The course is divided into two parts: modern soils and paleosols. The goals of this course are to teach students the fundamentals of modern soil genesis and classification in order to interpret ancient soils preserved in the rock record (paleosols), and to incorporate models of soil genesis into the traditional geology paradigm. Students will be exposed to a combination of laboratory methods and field work.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EES 5801. Quantitative Structural Geo. 4 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EES 5802. Tectonics. 3 Credit Hours.
Plate tectonic theory. Structure and geometry of lithospheric plates; mechanisms of divergent, transform and convergent boundaries; subduction; obduction; mantle plumes; large igneous provinces; large sedimentary basins and Phanerozoic orogenic belts.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EES 5811. Planetary Geology. 4 Credit Hours.
This course explores the modern and ancient geologic processes on other planets and discusses how studies of other planets can aid us in a better understanding of our Earth. The course will also cover topics such as planetary exploration and astrobiology. Includes a lab.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EES 8000. Geology Seminar. 1 Credit Hour.
Required of M.A. students. Visiting specialists in a wide variety of geologic fields will lecture and discuss their research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EES 8082. Independent Study Program. 1 to 3 Credit Hour.
Limited to Geology graduate students with permission from the department.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EES 8200. Graduate Geology Seminar. 3 to 6 Credit Hours.
Advanced seminar course; subject matter varies from semester to semester. The educational objectives of the course are to focus on current issues at the interfaces of geological processes through advanced technological methods of analysis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
EES 8411. Advanced Hydrogeology. 3 to 4 Credit Hours.
This course is typically offered in Spring.
This course covers water resources with an emphasis on groundwater. Topics include quantifying groundwater flow, groundwater-surface water interactions, contaminant transport, and a brief introduction to modeling. Problem sets and labs are used to develop specific skills, including field techniques.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EES 8421. Groundwater Modeling. 3 Credit Hours.
This course offers students a chance to construct models using well known codes such as MODFLOW and other practical tools. The goals of this course are: learn tools for groundwater flow modeling, be able to recognize how to judge models and compare them with reality, and gain computer skills that can be used with a wide variety tools.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EES 8701. High Temperature Reactions. 4 Credit Hours.
Thermodynamic laws and theory are used to discuss igneous and metamorphic processes. Exact field relationships are combined with thermodynamics to solve applied petrologic problems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EES 8706. Regional Geology. 3 Credit Hours.
Discussion of the geologic history and tectonics of selected regions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EES 8711. Economics of Geo Ore Deposits. 3 Credit Hours.
Study of the geology, origin, distribution, economics and extraction methods of major classes of ore deposits.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EES 8911. Teaching of Geology. 0 to 1 Credit Hours.
Required of all teaching assistants in their first semester of teaching. Instruction and evaluation of teaching laboratory, or discussion sections.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EES 9991. Master's Research Projects. 1 to 6 Credit Hour.
Short-term, limited research project or laboratory project in the field. This course is not the capstone project course, nor can it be used for thesis based research. The course is for master's students only, including PSM, MA or MS. This class will not confer full-time program status unless nine credits are taken.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Master of Science, Prof Science Masters.

Repeatability: This course may be repeated for additional credit.
EES 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
This course is required for students who are preparing for the preliminary or candidacy examination. Students should enroll after coursework is completed or when preparing for the candidacy exam until the time that the preliminary or candidacy examination is completed. This course will confer full-time status at the minimum credit hour registration limit of one credit. All students must complete a minimum of one credit of this course. Students must complete a total of 6 credit hours of 9994, 9998 and 9999.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Earth & Environmental Sci.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Philosophy.

Repeatability: This course may be repeated for additional credit.

EES 9995. Capstone Project. 1 to 6 Credit Hour.
Capstone project for master's students including students in PSM, MA or MS. This class will provide full-time status. Students in PSM programs need to register for at least one credit of this course to fulfill program requirements. Additional credits may be required for specific programs. This course will confer full-time status at the minimum credit hour registration limit of one credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Master of Science, Prof Science Masters.

Repeatability: This course may be repeated for additional credit.

EES 9996. Master's Thesis Research. 1 to 6 Credit Hour.
Course for master's thesis research. Only intended for students in thesis bearing master's programs. A minimum of one credit is required. This course will confer full-time status at the minimum credit hour registration limit of one credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EES 9998. Pre-Dissertation Research / Elevation to Candidacy. 1 to 6 Credit Hour.
This course is intended for students who are performing research prior to candidacy. Students can register for this course after required courses are completed. This course will confer full-time status at the minimum credit hour registration limit of one credit. Students must be registered for this course during the semester that they are to be elevated to candidacy examination. Students must complete a total of 6 credit hours of 9994, 9998 and 9999.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Earth & Environmental Sci.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Philosophy.

Repeatability: This course may be repeated for additional credit.

EES 9999. Dissertation Research. 1 to 6 Credit Hour.
The course is for Ph.D. students who have been elevated to candidacy. During the course of their candidacy students must complete a minimum of two credits of dissertation research. This course will confer full-time status at the minimum credit hour registration limit of one credit. Students must complete a total of 6 credit hours of 9994, 9998 and 9999.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Earth & Environmental Sci.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Philosophy.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.

Economics (ECON)

Courses
ECON 5001. Managerial Economics. 3 Credit Hours.
This course examines the applications of economic theory to problems confronting managers, including pricing under different market structures, cost and technology, strategic decision making, theory of demand, and the economics of less than perfect information.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
ECON 5102. Econ. Decision/Planning. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECON 5182. Independent Study. 1 to 6 Credit Hour.
Supervised individual reading and research projects for master's and Ph.D. students. Depending on the type of project, work experience or curricular practical training may be required. No more than six semester hours of independent study may be counted toward degree requirements.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ECON 5190. Special Topics in Economics. 3 Credit Hours.
A one-semester course on a topic in a particular field of economics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ECON 5501. Survey of Internatl Econ. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECON 5801. The Economic Environment. 3 Credit Hours.
The student's proficiency and confidence in solving real-world business problems increase as a deeper understanding of micro- and macroeconomic issues is developed. This course examines foundations of the economic behavior of enterprises and consumers in different market environments, such as open market, monopoly, and oligopoly. Also analyzed is the impact of government fiscal, monetary, and trade policies on business decisions and on economic measures such as GNP, employment, interest rates, and exchange rates.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECON 8001. Microeconomic Analysis. 3 Credit Hours.
Microeconomic theory for graduate students with little preparation in economics. This course offers detailed analysis of the behavior of households and firms in a variety of market settings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECON 8002. Macroeconomic Analysis. 3 Credit Hours.
Macroeconomic theory for graduate students with little preparation in economics. This course is a survey of theories and evidence bearing on growth and cycles in output, employment, interest rates, and prices. The course includes sector details and considers the scope for control of cycles.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECON 8003. Mathematics for Economics I. 3 Credit Hours.
An overview of elementary calculus, linear algebra, and the theory of Lagrange multipliers for graduate students in economics and related fields.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECON 8005. Microeconomic Theory I. 3 Credit Hours.
This course covers demand analysis; the theory of the firm; the theory of markets; and theories of wages, rent, interest, and profits.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ECON 8001|Minimum Grade of B-|May not be taken concurrently
AND ECON 8003|Minimum Grade of B-|May not be taken concurrently)
ECON 8007. Macroeconomic Theory I. 3 Credit Hours.
This course covers macroeconomic concepts relating to the determination of output, employment, and price level.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ECON 8001|Minimum Grade of B-|May not be taken concurrently
AND ECON 8002|Minimum Grade of B-|May not be taken concurrently
AND ECON 8003|Minimum Grade of B-|May not be taken concurrently)

ECON 8009. Econometrics I. 3 Credit Hours.
This course is the first in a two-semester sequence. The materials begin with the classical linear regression model, including hypothesis testing. Such traditional topics as multicollinearity, heteroscedasticity, and autocorrelation are included. Problems of pooled data and simultaneous equations are also considered.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECON 8104. Labor Economics. 3 Credit Hours.
This course provides a theoretical framework for analyzing the operation of the labor market. The role of the labor market in the determination of employment, wages, prices, and production is central to this analysis. Labor supply, labor demand, human capital, labor unions, migration, and discrimination are among the topics discussed. Particular attention is paid to the role of public policy and to the design of theoretical and empirical models.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ECON 5001|Minimum Grade of B-|May not be taken concurrently.

ECON 8105. Regulations and Antitrust Policy. 3 Credit Hours.
The focus is on analysis of the impact of regulatory processes, including antitrust, upon industry. Special emphasis is given to public policy toward monopoly, resource utilization, and pricing processes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ECON 5001|Minimum Grade of B-|May not be taken concurrently.

ECON 8106. Microeconomic Theory II. 3 Credit Hours.
Topics covered include general equilibrium analysis, game theory, introduction to public choice and welfare economics, and imperfect information analysis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ECON 8005|Minimum Grade of B-|May not be taken concurrently
AND ECON 9101|Minimum Grade of B-|May not be taken concurrently)
ECON 8108. Macroeconomic Theory II. 3 Credit Hours.
This course presents advanced topics in macroeconomics and empirical testing of national income components, mainly in a dynamic setting.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ECON 8007|Minimum Grade of B-|May not be taken concurrently
AND ECON 8009|Minimum Grade of B-|May not be taken concurrently
AND ECON 9101|Minimum Grade of B-|May not be taken concurrently)

ECON 8109. Theory of Economic Development. 3 Credit Hours.
The major part is an introduction to applied theory of economic growth. The roles of human capital, investment, and natural resources are analyzed. Issues of sectoral development, policies of the public sector, finance, and international trade are discussed. Practical projections of economic growth and ease studies are stressed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ECON 8007|Minimum Grade of B-|May not be taken concurrently
AND ECON 8009|Minimum Grade of B-|May not be taken concurrently)

ECON 8114. Advanced Labor Economics. 3 Credit Hours.
This course examines the microeconomic foundations of macroeconomic phenomena in the labor market. Questions surrounding the nature of employment and its causes are explored. This course includes economic models of unions, contracting and agency models, efficiency wages, insider/outside models, implicit contracts, and job searches. Specific articles in these areas form the basis of the material covered. Particular attention is paid to the mathematics behind many of the theoretical models covered in the course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ECON 8005|Minimum Grade of B-|May not be taken concurrently
AND ECON 8009|Minimum Grade of B-|May not be taken concurrently
AND ECON 8104|Minimum Grade of B-|May not be taken concurrently)

ECON 8115. Theory of Industrial Organizations. 3 Credit Hours.
The course offers a microeconomic analysis of the relationship between the structure of industry markets and the conduct and performance of business enterprise. Emphasis is on the modern theory of oligopoly, including dynamic pricing, contestable markets, and game theory. Specific dimensions of firm conduct include pricing, product differentiation, mergers, and research and development.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ECON 8005|Minimum Grade of B-|May not be taken concurrently.

ECON 8116. Mathematical Economics. 3 Credit Hours.
This course covers mathematical techniques and theorems of current importance in economic theory, with applications. Topics include game theory, social choice, general equilibrium analysis, and dynamic economics. The course concentrates on one of these topics, as warranted by developments in contemporary economic theory.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ECON 8005|Minimum Grade of B-|May not be taken concurrently
AND ECON 8007|Minimum Grade of B-|May not be taken concurrently
AND ECON 9101|Minimum Grade of B-|May not be taken concurrently)
ECON 8119. Econometrics II. 3 Credit Hours.
This is the second in a two-semester sequence of courses. The topics include nonlinear regression, the analysis of economic time series, and models with discrete or limited dependent variables.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ECON 8009|Minimum Grade of B-|May not be taken concurrently.

ECON 8121. Development of Less Developed Economies. 3 Credit Hours.
Examination of development efforts of less developed economies is undertaken. Selected domestic and international issues, policies, institutions, and reform are targeted.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECON 8122. Economics of the Public Sector. 3 Credit Hours.
Analysis of the economics of the public sector is covered. Topics include theories of public goods and optimal taxation, revenues, public expenditures, and incidence problems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECON 8123. Economics of Sports. 3 Credit Hours.
This course covers the application to professional and amateur sports of theory of industrial organization; anti-trust issues; public finance involving the relationship between cities and franchises; and labor issues of reward systems, unions, and discrimination.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ECON 8009|Minimum Grade of B-|May not be taken concurrently AND ECON 8114|Minimum Grade of B-|May not be taken concurrently)

ECON 8124. International Trade: Theory and Policy. 3 Credit Hours.
This course offers an intensive study of pure theory of international trade, welfare impacts of international trade, the theory and practice of commercial policy, and international factor movements. Special topics include the transfer problem; trade under uncertainty; and the relations between trade, growth, and development.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ECON 8009|Minimum Grade of B-|May not be taken concurrently AND ECON 8106|Minimum Grade of B-|May not be taken concurrently AND ECON 9101|Minimum Grade of B-|May not be taken concurrently)

ECON 8125. Theory of Public Finance. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
ECON 8129. Time Series Econometrics. 3 Credit Hours.
This course is designed to teach students advanced econometric techniques necessary to conduct original empirical research in macroeconomics. The course focuses on techniques appropriate for the analysis of time-series data. Students will learn the theoretical underpinnings of such topics as stationarity, ARMA processes, and vector autoregression (VAR) models and how to apply this theory to economic data.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ECON 8009|Minimum Grade of B-|May not be taken concurrently)
AND (ECON 8119|Minimum Grade of B-|May not be taken concurrently)

ECON 8134. Intern Monetary Econ. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECON 8139. Panel Data Econometrics. 3 Credit Hours.
This course is designed to teach students advanced econometric techniques necessary to conduct original empirical research using micro-level data. The course focuses on techniques appropriate for the analysis of cross-section and panel data. Students will learn the theoretical underpinnings of such topics as instrumental variables, selection bias, and regression discontinuity, and quantile regression. We will pay particular attention to how to apply these techniques to economic data.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ECON 8009|Minimum Grade of B-|May not be taken concurrently)
AND (ECON 8119|Minimum Grade of B-|May not be taken concurrently)

ECON 8190. Special Topics. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ECON 8204. Health Economics. 3 Credit Hours.
This course is designed to teach students advanced econometric techniques necessary to conduct original empirical research using micro-level data. The course focuses on techniques appropriate for the analysis of cross-section and panel data. Students will learn the theoretical underpinnings of such topics as instrumental variables, selection bias, and regression discontinuity, and quantile regression. We will pay particular attention to how to apply these techniques to economic data.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ECON 8009|Minimum Grade of B-|May not be taken concurrently)
AND (ECON 8119|Minimum Grade of B-|May not be taken concurrently)

ECON 9001. Foundations in Managerial Economics. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
ECON 9101. Mathematics for Economists II. 3 Credit Hours.
Mathematical techniques and theorems are presented and used in economic applications. Proofs are presented in formal mathematical language to introduce the students to the vernacular of current economics research papers. Topics covered include advanced topics in linear algebra; the implicit function theorem in multivariate calculus and its application to comparative statistics; the Karush-Kuhn-Tucker theorem and applications to linear and nonlinear optimization theory; and differential and difference equations with elements of stability analysis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ECON 8003|Minimum Grade of B-|May not be taken concurrently.

ECON 9183. Directed Study. 1 to 6 Credit Hour.
This course is designed for doctoral students who need specialization in topics related to their dissertation work.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ECON 9994. Field Examination/Dissertation Proposal Research. 1 to 6 Credit Hour.
This course is designed for students who have finished required coursework and are preparing a master's thesis or for preliminary and qualifying examinations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ECON 9996. Master of Arts Thesis. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ECON 9998. Dissertation Proposal Research. 1 to 6 Credit Hour.
This course is designed for students who have passed the theory preliminary and qualifying examinations but do not have an accepted proposal. The course may be taken for up to 3 semester hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ECON 9999. Doctoral Thesis Research. 1 to 6 Credit Hour.
This course is designed for students who have an accepted proposal and are in the research/writing stage of the thesis. Students living in the Philadelphia metropolitan area are required to attend the seminar and fulfill its requirements. Those living outside the area are required to fulfill its written requirements each semester and to make at least one presentation of their doctoral research in the seminar or elsewhere during the period they are working on their dissertation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.

Education (EDUC)

Courses
EDUC 5010. Special Topics in Education. 1 to 4 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EDUC 5011. Entrepreneur Thinking-Ed. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
EDUC 5101. Critical Understanding of Social Science Research. 3 Credit Hours.
This is an introductory course in understanding research for graduate students who will primarily be consumers of research, such as Masters and Specialist students. It will also serve as an introduction to research for doctoral students in applied fields (EdD and PsyD), who may go on to do applied research and take other research courses such as Program Evaluation or Single-Subject Research. It introduces students to the principles of social scientific research and the components of the research process. We also discuss the ethical issues inherent within any research involving human subjects. Conceptual, procedural, and analysis issues from quantitative, qualitative, and mixed methods research traditions will be covered, ranging from clinical trials and experimental designs to ethnographies in real-life settings. Because the scope of the course is quite broad, it will not be possible to cover all of the details of every design and method used in educational research. Nevertheless, by the end of the course you should be aware of a range of procedures that may be applied to different types of educational studies. You will also be aware of the guidelines that should be used in selecting a set of appropriate research methods and in evaluating research. You will also learn about the role of theory in educational research and how theoretical and conceptual frameworks inform research questions and the choice of data and methods.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5115. The Context of Education. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5203. Effective Teaching: Theory and Practice. 3 Credit Hours.
Provides theoretical and research basis for effective teaching strategies and affords the opportunity to practice the skills in simulated classroom conditions. Emphasizes the mastery of each skill. Exposure to a variety of teaching procedures and to a choice of the most appropriate strategy in a given educational situation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5204. Literacy N-6. 3 Credit Hours.
Examines theoretical models in reading and language arts and their applications to early childhood/elementary and classroom practices, K-6. Provides opportunities for students to focus on developmental and application issues in literacy learning, the integration of reading and language arts, and alternative assessment techniques.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5205. Numeracy N-12. 3 Credit Hours.
A study of how numeric concepts and computational logic contribute to science, social studies, English language arts, and other subject areas. Students in various disciplines learn how to apply these concepts and logic to their own classrooms.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5207. Early Childhood/Elementary Environments and Learning. 3 Credit Hours.
Guides students as prospective early childhood/elementary teachers in establishing and maintaining learning environments for children. Research based principles for effective teaching and developmentally appropriate curriculum practices are presented and supported with authentic classroom based examples. Helps students utilize proven systematic approaches that will enable them to organize, conduct, and evaluate instructional practices in preschool and elementary settings. Guided by two beliefs: (1) that students need to engage actively with the concepts presented in the course outline, and (2) that students should be exposed first hand to the realities of teaching in urban settings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5211. Creating a High School Learning Community. 3 Credit Hours.
Utilizes the natural and social sciences jointly as the vehicle to exemplify to the student (1) the processes associated with stimulating the learners' integration of thinking skills toward higher order problem resolution, and (2) the strategies aimed at socialization of the learners into a learning community.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
EDUC 5212. Curriculum, Instruction, and Technology in Education. 3 Credit Hours.
This 3 semester hour graduate course provides an introduction to the concepts, theories, and practices that address the linkages between the curriculum, instruction and technology. In particular, this course focuses on the implementation, management, and administration of technology infrastructure (hardware and software) at the building, school, and district levels.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5215. Standards & Tchg Pract. 1 to 3 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5212. English for Foreign Students. 3 Credit Hours.
The focus of this course is on English skills needed for instructional purposes. The course offers students opportunities to develop communicative skills necessary for successful teaching and information about teaching in U.S. institutions of higher education (e.g., syllabi, instructional formats, and legal issues, such as sexual harassment and plagiarism). Note: This course is for ITA students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5229. Crit Thk Val Clar & Inq. 1 to 3 Credit Hour.
This course examines the tension that exists between curriculum requirements (especially as measured by high stakes testing) and the need to teach students critical thinking and responsibility. Participants will incorporate classroom climate techniques (character education, anti-bullying programs, etc.) into their curriculum development and their instructional planning.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5231. Col Studies AT2 (CSAT 2). 1 to 3 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5232. Col Studies AT3 (CSAT 3). 1 to 3 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5241. Comp Rdg Instruction. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5242. Lit for Mid Level Learnr. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5243. Col Studies AT1 (CSAT1). 1 to 3 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
EDUC 5244. Class Discourse. 3 Credit Hours.
The purpose of this course is to provide doctoral students with the theory and framework to study classroom discourses. According to Gee (1989), discourse "integrates words, acts, values, beliefs, attitudes, and social identities as well as gestures, glances, body positions, and clothes" (p. 7). In this broad context, we will examine student discourses in reading/language arts, mathematics and science in both in-school and out-of-school contexts. We use vignettes from Courtney Cazden's text as a model to critique classroom discourses among teachers and students. We also examine transcribed texts to find linguistic patterns in reading, mathematics and science classrooms. Finally, we use rubrics to judge the quality of classroom discourses to illustrate content knowledge.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5254. Characteristics of Computer-Based Instruction. 3 Credit Hours.
Application of computer technology in instructional programs. Discusses prospects and problems of the uses of computers and other technologies (e.g., interactive whiteboards) in support of direct instruction, management, and testing. Hands-on experience is included.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5255. Tech in Classrooms: TPCK. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5257. Elem Sch Rdg Instr. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5258. Second Sch Read Inst. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5259. Tch Rdg & Lang to Spec. 3 Credit Hours.
This course focuses on understanding a) reading, b) reading problems, c) assessment strategies, and d) effective, research-based, teaching practices for students with special needs. "Students with special needs" includes but is not limited to those with poor reading, writing, and speaking skills, learning disabilities, and cultural, economic, and language differences. The goal of the course is provide each student with first-hand knowledge, skills, and solutions to address children's reading problems. Questions that guide this course include: What are the causes of low language and literacy abilities among students? How do we assess students with poor reading and writing skills? What reading and language arts strategies are most effective with students with special needs? What education and psychology of reading theories inform these practices? How can we practice inclusion during reading and language art lessons? What additional services are available to support all children's success in the classroom?

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5261. Beginning Rdg Instructn. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5262. Introduction to Qualitative Research. 3 Credit Hours.
Several qualitative research designs will be reviewed, including discussions of phenomenology, grounded theory, interpretive paradigm, narratives, histories, and ethnography. Research strategies/methods will be critiqued, including interviewing, participant-observation, and textual/content analysis. Important concepts for this course are appropriate research questions, study design, data collection methods, data management, managing the study, data analysis, interpretation of results, and presenting the study to peers. Qualitative data analysis will be introduced, but the emphasis is on research design and data collection. Combining qualitative and quantitative data will also be discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
EDUC 5272. Instl Pract Middle Class. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5275. Seminar in Supervised Teaching. 3 Credit Hours.
Describes basic principles of human behavior in relation to managing classrooms and the teaching of academic skills. Examples of successful applications of the principles are provided. Students required to use the principles and procedures in their classrooms and to report the outcomes to the participants in the class.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5287. Practicum in Teaching. 3 Credit Hours.
Introduces students to the process of teaching children in an elementary or high school environment. Under the direction of a Temple University faculty member, the student observes elementary or high school students in a variety of situations. Classroom discussions are held in conjunction with observed events and suggestions are made as to how to deal with a variety of management and academic problems. The course is a prerequisite to ED 406 and 412, and is taken in conjunction with ED 403 at the start of the student's program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EDUC 5321. Instructional Innovation and Entrepreneurship. 3 Credit Hours.
This course in advanced teaching methods will focus on cutting edge pedagogy and new trends in teaching and learning. The course will be inquiry-based so that teachers across grade levels and disciplines can research and report on promising new methods, including but not limited to methods that take advantage of new technologies. Each student will create a unit of instruction using innovative new pedagogy and present that unit to the class. The course will encourage and nurture innovative and entrepreneurial thinking, creating a model for teacher innovation and entrepreneurship. It will also focus on creative strategies for enabling all students to meet learning goals.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5325. Introduction to Statistics and Research. 3 Credit Hours.
An introductory course which focuses on basic research and statistical concepts. The course will cover both descriptive and inferential statistics from the perspective of an informed consumer of empirical research. There are no prerequisites for the course. The purpose of this course is to enable students to interpret and use a variety of descriptive and inferential statistical procedures that are commonly used in education and the social sciences. Topics covered in the course include an introduction to research design, sampling, descriptive statistics, t-test, Pearson correlation, univariate analysis of variance, and non-parametric statistical tests. Emphasis will be on the proper use and interpretation of these statistical procedures. The course does not emphasize the calculation of statistics, and mathematical sophistication is not assumed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5327. Teacher Leadership and the Teaching Profession: A Guide for Action. 3 Credit Hours.
This course provides an historical perspective on the teaching profession as well as a close look at the status of teaching today, including the development of associations and teacher unions, content-based organizations of teachers like the National Council of Teachers of English, the formation of teacher networks, and national organizations like the National Board for Professional Teaching Standards. It will look at all aspects of teaching including teacher preparation, teacher professional development, teacher advocacy, and the future of the teaching profession. In this context, the course will raise questions about the role and status of teachers in contemporary American society, how teaching fares in public policy debates, and the assumptions about teaching that underlie new federal and state requirements for teacher preparation and professional development. We will examine recent proposals to assess teachers using various frameworks and to include student test scores as a measure of teacher quality and teacher success. Designed for teacher leaders, school leaders, and other education professionals, this course will place teaching and teacher quality at the center of any discussion about the goals of education, student achievement, and school success. It will focus on the conditions necessary for good teaching and learning to occur and how teachers can help to create those conditions in their own classrooms and in collaboration with their peers and administrators.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
EDUC 5401. Intro to Middle School. 3 Credit Hours.
This course will introduce you to the middle school concept. Characteristics of middle schools will be discussed, including teaming, interdisciplinary units, and literacy across the content areas. Important aspects of the middle school environment, such as collaborating with specialists and creating a learning environment in the classroom, will be emphasized. Field experiences will be in the form of focused observations and interviews.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5402. Child and Adol Develop. 3 Credit Hours.
This course will focus on issues of child and adolescent development that are relevant for educators. Development (e.g., physical, cognitive, social) and learning theories will be examined through discussions of theory and research. Particular attention will be paid to the early adolescent. Field-based experiences, in the form of focused observations and interviews, will support these discussions. Group and individual differences will be emphasized.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5403. Diverse Lrns in Class. 3 Credit Hours.
Through this course, students will gain expertise in applying best practices to ensure access, equity, and quality education for all students. This course will introduce you to the characteristics and special needs of students having disabilities and of students who are culturally and linguistically diverse. The complex and critical issues surrounding inclusive and heterogeneous schooling will be examined along with the establishment of collaborative relationships with fellow colleagues, members of the school community and families. This course provides an overview of theory, research and practice in teaching culturally and linguistically diverse students in the middle grades. Students will learn about the socio cultural characteristics of ELLS and how the process of acquiring multiple languages and literacy skills affects students’ learning of academic content. Students will be introduced to approaches for adapting science and math content for English language learners.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5406. Teach Math Middle Gr II. 3 Credit Hours.
This course is part of a sequence of courses within the e=mc2 Transition to Teaching graduate certification program. This course will be taught in the third semester for those in the mathematics track. This course will focus on geometry, measurement, and data, as appropriate for the middle grades. This continuation course will again focus on the particular mathematical and pedagogical knowledge needed for teaching, including issues of planning, instruction, and assessment. Field experience will be in the form of student teaching, and this course will allow for reflection on this experience. Support will be provided for student motivation, classroom management, and other realities of teaching.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5407. Teach Sci Middle Gr II. 3 Credit Hours.
This course is part of a sequence of courses within the e=mc2 Transition to Teaching graduate certification program. This course will be taught in the third semester for those in the science track. This continuation course will again focus on the particular pedagogical knowledge needed for teaching including issues of planning, instruction, and assessment. Field experience will be in the form of student teaching and this course will allow for reflection this experience. Support will be provided for student motivation, classroom management, and other realities of teaching. Whereas the first methods course was focused on the big ideas in the various disciplines in science, this course will focus on the cross-cutting themes in science as identified in the National Science Education Standards: systems, order, and organization; evidence, models, and a explanation; change, constancy, and measurement; evolution and equilibrium; form and function.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5409. Research Methods and Induction Capstone. 3 Credit Hours.
This course will provide a vehicle to synthesize learning, reflect on experiences throughout the program, and consider issues related to the first year of teaching. Special topics include behavior problems, teacher stress, first year of teaching, professional development, and action research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
EDUC 5488. St Tchg in Middle Grade. 3 Credit Hours.
This field experience involves 9 weeks of full-time student teaching. Prospective teachers will be placed in a middle grades mathematics or science classroom, where they will work under the guidance of a mentor teacher. Experiences include observing, assisting, and delivering whole class instruction. NOTE: All coursework must be completed before taking this course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Education.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.
Cohort Restrictions: Must be enrolled in one of the following Cohorts: EDCNDCY.

Repeatability: This course may be repeated for additional credit.

EDUC 5605. Models of Teaching. 3 Credit Hours.
Models of teaching are studied to better understand their goals and strategies, and to support new teachers in developing broader perspectives regarding teaching practice and their implications for student learning.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 5888. Supervised Teaching. 3 or 4 Credit Hours.
Involves full-time placement in an elementary or secondary school for the entire semester. Students with paid teaching positions may use the school site; others are placed in a school and work with a cooperating teacher. All students supervised by Temple University faculty member.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EDUC 8102. Ethnographic Research Methods. 3 Credit Hours.
This class will use an in-depth study of ethnographic methods to develop qualitative data collection skills. Ethnography is one type of qualitative research. It uses the study of people in their natural settings to attempt to understand their social world, culture, and the meanings they make of their experiences in social contexts. According to LeCompte and Schensul, "ethnography takes the position that human behavior and the ways in which people construct and make meaning of their worlds and their lives are highly variable and locally specific...[Thus,] ethnographic researchers learn through systematic observation in the 'field,' by interviewing and carefully recording what they see, hear, and observe people doing, while also learning the meanings that people attribute to what they do and the things they make" (LeCompte and Schensul, pp. 1-2). Because ethnographic research is intensive and involves a variety of data collection techniques - observations, interviews, and document analysis - learning ethnography is a good way to explore all of these techniques.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 8103. Contemporary Trends in Educational Research. 3 Credit Hours.
The purpose of the course is to provide a fundamental step in the development of a research orientation of educational phenomena through introducing students to the domain of educational research and to the kind of research questions asked by educational researchers when assuming disciplinary as well as interdisciplinary perspectives.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 8104. Epistemology and Method in Educational Research. 3 Credit Hours.
The purpose of the course is to provide a fundamental step in the development of a research orientation of educational phenomena through introducing students to the epistemological foundations and research methods of educational research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
EDUC 8232. Technology, Teaching, and Learning. 3 Credit Hours.
Focuses on educational technologies and the ability of technology to enhance both program administration and teaching and learning for youth and adults in school and non-school settings. The ethical, social, and scientific ramifications of technological developments in education and how these developments affect the teaching and learning process are discussed. Application of instructional technologies in education, business, and industry presented.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 8251. Teacher Development: The Reflective Teacher. 3 Credit Hours.
Designed for practitioners interested in enhancing their skills of reflection with an eye on improving classroom practice. The fundamental components of teaching and learning will provide the foci for discussion, inquiry and reflection. The course will be largely experiential, providing participant's ample opportunity to participate directly in activities designed to provoke introspection and critical analysis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 8252. Cultural Diversity and Learning Styles. 3 Credit Hours.
This course rests on three premises: (1) Because differences among learners affect learning, those differences should inform teaching, (2) Master teachers make informed judgments about learners' needs and interests, and (3) Master teachers use both these judgments and student performance data to inform instruction. This course aims to encourage teachers to consider the usefulness of these three premises for improving student performance.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 8253. Accom Tchr: Nbpts Process. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 8271. Program Planning and Evaluation. 3 Credit Hours.
Program planning and evaluation are viewed and discussed from a lifespan perspective that incorporates program planning and evaluation for school, post-secondary and higher education, continuing education, community-based, and training and development settings. Students are encouraged to apply program planning content and processes in real educational settings, which may be school or community based.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 8272. Adv Classroom Mgt. 3 Credit Hours.
Students will study many of the teacher-controlled environmental variables which influence learning in the classroom. Particular emphasis will be placed on discovering and assessing practical and theoretical instructional strategies related to behavior management, classroom organization, differentiated and adapted teaching techniques, lesson design, motivation, and assessment. Techniques used will include teacher presentations, discovery learning, panel discussions, cooperative learning structures, group and individual projects. Assessment will be based on course participation and a summative portfolio.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 8273. Adv Coop Learning. 3 Credit Hours.
Through readings, lectures, class discussion and instructor-led activities, students enrolled in this course will be able to (1) describe research-based outcomes achievable through cooperative learning and (2) design and implement a number of practical, cooperative learning models for achieving specific learning objectives.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
EDUC 8274. Current Issues/Curr & Instruc. 2 to 3 Credit Hours.
This course invites students to thoughtfully review what is currently considered best instructional practices. Special emphasis will be given to the organization, management, and evaluation of instruction.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 8275. Research Design in CITE. 3 Credit Hours.
Students are provided with practical experience in formulating research problems and designing appropriate methods to address those problems within a lifelong perspective of education and learning. An overview of various research designs, including both qualitative and quantitative designs are conducted. Students are expected to learn how to design research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 8276. International Ed Seminar. 1 to 9 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 8278.Found Theor Res Reading. 3 Credit Hours.
This course will examine influential theories and research that address the psychological, cognitive, sociocultural, literary and linguistic foundations of reading. During the first part of the course we will consider how leading and often competing reading theories developed over time as well as how seminal research studies were conducted and considered by scholars, practitioners and policy makers. From there we will then focus on research propelling current conversations in the literacy field in

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 8279. Found Theor Res Writing. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 8289. Capstone Seminar Cur Iss. 3 Credit Hours.
This course, taken near the end of the program, will focus on current educational issues and the research surrounding them. In addition, it will include an experiential activity that will form a bridge between the student's career and the coursework of this program, especially the student's specialization or focus.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 8401. Philosophical Foundations of Educational Research. 3 Credit Hours.
This course asks students to grapple with a questions that will be foundational to their development as scholars in the field of education. At the most basic level, the course asks, "Why do we conduct research in education?" To help students answer these questions, the course surveys the broad variety of philosophical and scholarly traditions underlying educational research. Each of these traditions makes fundamental assumptions about the nature of knowledge and knowing, the role of education in society and human life, and the purposes and consequences of educational research. Throughout the course, students will explore these fundamental assumptions and determine their connection to various research agendas in education. In addition, students will grapple with their own reasons for conducting educational research, the impact they hope to have, and the connections between these and the College's commitment to equity and social justice. We will give special consideration to the philosophical assumptions inherent within various disciplines and debate the merits of each for conducting well-designed investigations that have the potential to improve the lives of others.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
EDUC 8402. Policy Analysis. 3 Credit Hours.
Should we get rid of neighborhood schools and allow a system of full choice? Should higher education be free for all students? Should the government expand access to subsidized housing? These are but a small set of the complex and important questions facing government today. This course is designed to help you learn how to identify underlying causes and explore potential solutions to problems facing public schools, institutes of higher education, and other complex organizations. Using the tools of policy analysis, our focus will be on understanding the problems these policies are trying to solve, the success of existing policies, and the potential alternative policies that might be available to solve them. Throughout the semester you will learn to evaluate the evidence for and against various policies and develop concise reports of your findings and recommendations. While it is impossible to provide an in-depth analysis of such a broad topic as “policy”, we will cover many of the major current initiatives including market-based reforms of K-12 education. While the content for the first four sessions is set, specific topics for the remaining sessions will be determined at the beginning of the semester to reflect the interests of enrolled students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 8403. Understanding Social Science. 3 Credit Hours.
The purpose of the course is to provide a foundation in the core ideas of social science research of a research orientation through introducing students to epistemological foundations and research methods in educational research. More specifically, we will be working together to promote the following major goals: Understand and grapple with the types of questions that are addressed by social science researchers, particularly in the field of education; Review the major concepts, theoretical perspectives, and practical lenses of sociology and their application in an educational context; Explore relationships among the questions social science researchers ask, the methods they employ, the epistemologies they invoke, and the conclusions they draw; Collaborate with students from other concentrations to understand how different questions, methodologies, and epistemologies play out in different fields of study; Consider our own questions, interests, methodological preferences, and epistemological beliefs and the implications of these assumptions for our emerging research questions and design choices.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 8404. Understanding Social Science, Part I. 3 Credit Hours.
Student attitudes toward statistics run the gamut from extreme interest to apathy to dread. You will learn in this course that it is possible to improve your thinking and make better decisions when you are facile in some fundamental statistical concepts and skills. When you “mathematize” your professional and personal world, you can reduce uncertainty, make better predictions, and understand the difference between (a) real and illusory differences among people and (b) real and illusory correlations (e.g., gender and depression; gender and risk-taking). This is true regardless of whether you are training to be a researcher, training to be a counselor, and learning stats for a variety of other fields. All methods for improving the lives of children and adults rely on research; major organizations (e.g., AERA, APA, ACA, AMA, etc.) emphasize evidence-based decision-making or choosing techniques that have been shown to be effective. Understanding statistics is a key component of evidence-based decision-making. One reason people hate or fear statistics is that their prior mathematics instructors were so bad that they became turned off to any kind of math or even doubted their math ability. Another reason is that some stats professors think that the mathematical (computational) aspect of stats is the only and most important thing rather than viewing computations as a means to an end, and aid in making decisions or drawing conclusions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 8405. Quantitative Analysis, Part II. 3 Credit Hours.
The world is a complex place, particularly in the arena of education. Rarely are phenomena related to developing, learning, teaching, remembering, or forgetting rooted in a single source or explained by a lone cause. This course is designed to train future educational researchers to untangle these complex, multifaceted interconnections between predictor(s) and outcome(s) through multivariate statistics. The emphasis for this course is on understanding and using educational statistics, not on memorization. Particular attention is dedicated to mastering when and why particular techniques would be useful, and what specific windows into reality they offer relative to other analytic strategies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 8501. Motivation in Education. 3 Credit Hours.
The purpose of the course is to provide students the opportunity to develop deep, critical, and personally relevant understanding of theoretical concepts and processes, methodological considerations, and practical implications of contemporary motivation theories as they are applied in educational settings. Particularly, the course aims to help students develop knowledge and skills that would allow the critical and constructive application of motivational theory to designing investigations of educational phenomena of interest.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
EDUC 8502. Social Contexts of Learning. 3 Credit Hours.
This three-credit hour course examines research from both social cognitive and sociocultural perspectives on learning in education in classrooms, schools, and informal contexts. We will investigate research on students' everyday practices and its connection to learning various subjects in schools; the relationships between culture, language, teaching and learning; and issues of race, social class, ability, and gender in education. Finally, we will examine how national, state, and local policies influence the social contexts of teaching and learning, with particular attention placed on issues of equity and access in classrooms.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 8503. Learning to Read. 3 Credit Hours.
The purpose of this course is to provide students with the opportunity to learn about the most current research and practices of how children learn to read. We will discuss the importance of early language and literacy experiences and discuss techniques used to teach phonics and reading comprehension. Each topic will focus on an issue in learning to read and how it impacts special populations and English Learners (ELs). The course will take a developmental approach and discuss how foundational skills begin from birth and are developed through four grade. The class will discuss how foundational language and emergent literacy skills impact learning to read. We will then discuss how beginning readers and writers need to develop an understanding of the alphabetic principle (in order to decode words) and begin to use their knowledge of how letters represent sounds and how those letters and sounds make up words. We will also learn how children transition from learning to read to reading to learn as children begin to develop comprehension strategies. In each class, we will discuss how each topic relates to children who are having difficulty learning and children who are English Learners.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 8504. Problem Solving and Reasoning in STEM Education. 3 Credit Hours.
This course will introduce you to a subset of major research lines in reasoning and problem solving, with specific contexts in science, technology, engineering and mathematics (STEM) education. We will use research literature to explore conceptualizations of rationality and critical thinking, how students use these skills to understanding mathematics and science, and how educators teacher use these skills in mathematics and science classrooms, as well as teaching these skills to students. In addition to these topics, this course will continue building and developing the skills that doctoral students will need in order to be successful in their graduate programs and in their professional lives. In particular, this course will focus on developing skills related to analyzing, synthesizing, and reviewing educational research literature, and to write a research proposal relevant to reasoning and problem solving in STEM Education.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 8505. Assessment and Evaluation of Students. 3 Credit Hours.
This is course is designed to provide students an opportunity to examine the literature related to major issues in the assessment of students with learning problems, including students with disabilities (SWD) and English Language Learners (ELL). It is assumed that students enrolling in this seminar will bring an understanding of psychometrics and knowledge of the methods used to assess these populations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 8506. Cognition and Learning in Education. 3 Credit Hours.
This course is designed to stimulate graduate students’ thinking about how learning occurs in a variety of domains, and what aspects of cognition influence the ability to learn in those domains. We will read and discuss relevant review chapters and empirical articles and share findings from related articles of interest from fields such as cognitive and developmental psychology, education, and the learning sciences. Focal questions for the course include: What are the current cognitive perspectives on how learning occurs in a variety of academic domains? How might this knowledge impact instructional design in those domains? How can we study and assess learning in different settings? We will think about and discuss learning across a wide range of age groups (from early childhood through adult years), individual differences (e.g., native language, special education status), academic domains (e.g., reading, mathematics, etc.), and learning environments (e.g., classroom, out-of-school, informal learning, computer-based learning environments).

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
EDUC 8545. Social Cntxt Math Sci Ed. 3 Credit Hours.
This course examines research from a socio-cultural perspective on mathematics and science education. We will investigate research on students’ everyday mathematics and science and its relationship to learning these subjects in schools; the relationship between culture, language, and mathematics teaching and learning; and issues of race, social class, and gender in mathematics and science education. Finally, we will examine how national, state, and local policies influence mathematics and science teaching and learning, with particular attention placed on issues of equity and access.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 8727. Foundations Math Sci Ed. 3 Credit Hours.
This course will introduce students to the foundations of math and science education. It will examine trends in the history of math and science education, consider major philosophical arguments about learning math and science, and analyze the portrayal of math and science in the K-12 classroom. Simultaneously, we will focus on what it means to do math and science and on understanding the practices and habits of minds of mathematicians and scientists.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 8730. Res Topics Sci Ed. 3 Credit Hours.
This doctoral level course will explore current research in science education. Key questions will be explored and current literature on that topic will be read and critiqued. Faculty in the program area will alternate teaching this course and the topics will vary from year to year. As a result, this course can be taken up to 3 times. Topics that this course will explore are demonstrations in the classroom, scientific inquiry, professional development, classroom-based research, technology in the science classroom among other topics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EDUC 8731. Psych of Learning Math. 3 Credit Hours.
This doctoral seminar will focus on psychological theory and research relating to the learning and teaching of mathematics. The main emphasis will be on developing solid conceptions of what it means to know and understand mathematics from a psychological perspective.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 9255. Res.Seminar/Math/Sci Ed. 3 Credit Hours.
This three credit graduate course will introduce you to a subset of major research lines emerging in the fields of mathematics and science education. We will examine the research literature to understand the “hot topics,” focusing on those that are currently in debate in the fields. While the course will be focused around topics that affect both fields, readings will help us understand how these topics are being conceptualized in the individual areas of science education and mathematics education. In addition to these topics, this course will continue building and developing the skills that doctoral students will need in order to be successful in their graduate programs and in their professional lives. In particular, this course will focus on developing skills related to writing integrated reviews of research, necessary both for your dissertation and publication. Specific skills focused on in this course will be: situating your research within a larger context (i.e., asking meaningful and answerable (!) questions), identifying focus of specific journals, and writing a critical literature review.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDUC 9257. Problems in Education. 1 to 6 Credit Hour.
Limited to matriculated doctoral students and those with permission of instructor. Specified problems, research, and practice in education. May be repeated for credit when approved by the instructor. Specific offering changes from semester to semester; contact advisor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
EDUC 9282. Graduate Independent Study in Curriculum, Instruction, and Technology. 1 to 6 Credit Hour.
Limited to matriculated doctoral students and those with permission of instructor. A course intended to meet the needs of students who desire to carry on individual investigation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EDUC 9287. Practicum Corr Remed. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EDUC 9288. Instr. Pract: Corr/Remed. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EDUC 9289. Fldwork Disabilities Sty. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EDUC 9487. Pract: Program Supv.. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EDUC 9489. Field Exp & Practicum. 3 to 6 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EDUC 9587. Prac Intro to Diagnosis. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EDUC 9987. Teaching Apprenticeship. 3 Credit Hours.
This course is designed to provide graduate students with hands-on teaching experience in higher education under the mentorship of a full-time faculty member. The purpose of the Teaching Apprenticeship is to prepare students for independent teaching that is central to academic careers and that will be required for many funding opportunities during graduate school. Because students’ interests and expertise and the needs of the college vary, placements for the Teaching Apprenticeship will differ from student to student.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EDUC 9991. Research Apprenticeship. 1 to 3 Credit Hour.
Working under the close mentorship of a faculty member, students actively engage in research and produce a scholarly product such as a submission to an academic conference, an article or chapter or a grant proposal.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EDUC 9993. Master’s Comprehensive Examination. 1 to 6 Credit Hour.
This course is for the Master’s comprehensive examination in the College of Education. You should register for the section specific to your advisor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Education.

Repeatability: This course may be repeated for additional credit.

EDUC 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
EDUC 9996. Thesis Credits: Masters. 1 to 6 Credit Hour.
Students complete a thesis or project under the supervision of their advisor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EDUC 9998. Dissertation Proposal Design. 1 to 3 Credit Hour.
Proposal writing. Limited to those who have passed the Preliminary Exams. Repeatable.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EDUC 9999. Doctor of Education Dissertation. 1 to 6 Credit Hour.
Dissertation research. Limited to those elevated to candidacy/class 9.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.

Educational Administration (EDAD)

Courses

EDAD 5027. Research-Based Practices. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5063. Educational Reform. 3 Credit Hours.
This course identifies current education reform interventions that are provoking change. Additionally, the federal legislation targeting school reform and the implementation of federal programs locally, as well as the politics of federalism in education, are examined.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5201. Action and Collaborative Research Seminar. 3 Credit Hours.
Action research techniques for the classroom/educational setting. The focus of the action research is problem-driven rather than method-driven. Collaborative research efforts are encouraged.
This course is a seminar intended to facilitate the development of reflective practitioners and participatory researchers - educators who perceive classrooms and schools as sites of inquiry. The course is designed to help students develop understandings and skills needed to accomplish the following: (1) identify problems in classrooms and/or schools that can be addressed via research; (2) locate appropriate action and/or teacher research studies for their educational needs; (3) interpret the results of action and/or teacher investigations; and (4) know how to carry out aspects of teacher and/or action research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5300. Intro Issues Sch Ldship. 3 Credit Hours.
This course introduces students to the program's goals and theoretical foundations to help them assess and reflect on their own learning needs as they continue through the program. The course surveys the effective leaders, leadership styles, organizational theory, and decision-making literature(s) from across disciplines to orient students to the school context and examine the role and potential of the individual school leader. Particular attention will be paid to the impact of the leader's values, knowledge, skills, and behaviors on teaching and learning for adults and children within the school and school community.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
EDAD 5301. Leadership for Learning. 3 Credit Hours.
This course allows students the opportunity to engage in rigorous work designed to challenge traditional paradigms of school leadership and to explore values and beliefs underlying leadership needed for school reform in pre K-12 schools today. Students will be exposed to concepts from current research in developing professional learning communities, collegiality, instructional leadership, data driven decisions and assessment. Coursework includes interactive case studies, team projects, and guest speakers.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5302. Contexts for Sch Reform. 3 Credit Hours.
This course will focus attention on schools foundation within a distinctly American cultural, constitutional, and legal framework, particularly the internal system-based and external legal, policy, and political environments that affect school policy and practice. TA survey of milestones in contemporary education history/reform, with specific attention to the education of diverse groups provides historical context. Students will examine and apply to practical cases 1) federal, state, and local laws, policies, and regulations and the implications of these for school leadership; 2) literature and case studies on education reform efforts at both the district and school levels, including the forces that influence the outcomes of education reform historically and at the present time; and 3) the school and district as complex systems, as well as strategies used to manage change across system levels.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5303. Ldshp in Diverse Context. 3 Credit Hours.
This course will examine the issue of diversity in schools in all its dimensions to better understand the challenges of creating schools that ensure the fair and equitable treatment, opportunity, and successful educational outcomes for all students. The course will survey the history and current policy and practice contexts for serving historically under-served/under-performing student populations (e.g. high-poverty students, minorities, English-language learners, and students with disabilities). The range of issues presented by diverse student populations and their impacts on the role of the school leader will serve as the foundation of this course. Emphasis will be on better identifying and addressing the needs of particular students through the use of assessment, research, and data; accessing a variety of available resources (e.g. research, technical assistance); identifying models of effectiveness; and leading school change to meet the needs of all children and close the achievement gap(s) so that all children achieve at high levels.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5304. Sch Operations, Mgmt, Tech. 3 Credit Hours.
Effective school leaders must effectively lead all aspects of the internal and external school environment. This course provides an introduction to the various operations responsibilities of the principal-plant, budget, human resource, technology, labor and public relations management-and strategies for better aligning school resources (e.g. time, space, teachers, materials) to the vision for improvement. The course will review relevant laws, policies, and standards of practice and progress monitoring in each area. Across topics, students will be supported in developing a data-driven lens that will help them to reflect on and critically assess factors related to implementation progress, particularly the extent to which people and/or processes are affect improvement work.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5305. Knowledge Sch Improve. 3 Credit Hours.
Availability of considerable amounts and types of research and data does not guarantee accurate interpretation or use. This course will help students to become skillful users of information to enabling them to make intelligent, timely decisions-to be effective and creative problem solvers. In particular, the course will help students to organize and use data to identify those aspects of their school's performance most critical in helping them to reach state standards; sense and diagnose problems and their root causes before they measurably impact performance; read and interpret education research to identify reliable, actionable information on effective programs in support of school progress toward those standards; thoughtfully plan for and implement applications of research with fidelity to the model(s); continuously monitor progress and evaluate outcomes of specific strategies; and intelligently marshal resources based on these assessments and articulated goals. In addition to the development of specific functional/technical skills, the program will help participants to develop specific habits of mind-orientation toward inquiry; reflection; quality problem solving; and performance-focused, continuous improvement.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
EDAD 5306. Change Leadership. 3 Credit Hours.
A required set of skills for tomorrow's educational leaders is the ability to initiate and sustain continuous improvement and results. This course will explore a variety of literature, research-based practices, and case studies to help students to recognize conditions/variables (e.g. resources, culture, organizational dynamics and changes) in school and community contexts, and how to effectively and strategically navigate the landscape towards school improvement. Particular emphasis will be on helping students develop as reflective, ethical leaders.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5307. Clin Exp in Sch Ldship. 3 Credit Hours.
This course is designed to fulfill the internship requirements for a person seeking the Pennsylvania Administrative I certificate (school principal, K-12). In order to be recommended for the Pennsylvania Administrative I certificate, the student must complete both Educational Administration courses 9189 and 9289 (3 semester hours each). This course is designed to meet all of the PIL Standards. This year long internship along with a 20 hour internship in each course in the principal certification program will give a university student a total of 360 hours of field experience. The internship serves as a bridge between university coursework and the world of professional practice in the school community. It helps aspiring leaders translate what they study into effective practices in an authentic work setting. The student engages in administrative work under the direction of an on-site mentor (an administrator or supervisor) in a school district either where the student is employed or in another district.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5308. Clinical Experiences in School Leadership 2. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5402. Action and Collaborative Research Seminar. 3 Credit Hours.
Action research techniques for the classroom/educational setting. The focus of the action research is problem-driven rather than method-driven. Collaborative research efforts are encouraged.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5503. The Principalship. 3 Credit Hours.
The principal's responsibilities in the organization and administration of a school are examined.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5505. Introduction to Educational Administration and Supervision. 3 Credit Hours.
An overview of educational administration is provided. This is a required first course for educational administration majors.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5513. Fostering Professional Development: Coaching and Mentoring. 3 Credit Hours.
Schools and school systems are locations of constant change. Especially in the post-Internet world, teachers, school leaders, and other education professionals are continually expected to update their practice and adapt to evolving standards and ongoing pressure to narrow the achievement gap and improve student performance. This course is designed to assist supervisors, coaches and mentors in their efforts to respond to and manage the continuous improvement environment common in schools today. Learning goals include enhanced communications skills, the ability to assess teacher practice and provide useful feedback, and the ability to model good practice, set goals and develop growth plans. The course will emphasize best practices in adult learning and professional development.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
EDAD 5517. Emotions, Diversity and Democratic Leadership. 3 Credit Hours.
This course introduces students to relevant literature on emotional intelligence, leadership and diversity and to the practice of leading diverse groups. Students learn foundational capacities in emotional intelligence, uncovering common motivations for collaboration, and developing trust in a diverse group. The course also focuses on factors that support and prevent collaboration in various educational settings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5531. The School Superintendent: Chief Educator and Chief Executive I. 3 Credit Hours.
This is a year-long course. Semester I enables the candidate to know; Semester II enables the candidate to be able to do. The prerequisite is EDAD 5531: The School Superintendent: Chief Educator and Chief Executive I. A school system is a human organization whose mission is the education of children and youth. The system is composed of a series of interdependent parts, including the formal organization, informal organization, people, status and role-expectancy pattern, and the physical environment. The dynamic forces of the systems concept is integrative. At its core is a goal structure around which the organization is designed, and to which the separate but interrelated components are functionally and operationally united to serve the purpose for which it exists.

In a school system, the systems approach focuses upon the transforming of human and nonhuman resources into educational programs and services through the interaction of human and related system elements. Leadership and Administration in a contemporary educational environment is a social process that takes place within the context of a standards aligned system. This process can be viewed through three points of view. Structurally, leadership and administration is seen as relationships among levels of responsibility within the system. Functionally, these relationships are the locus for allocating and integrating roles and resources in order to achieve the goals of the system. Operationally, the administrative process takes effect in situations involving person-to-person interactions. The ways in which the total system is designed and implemented, from the subsystems to the integrated whole, can affect the willingness of system members to cooperate in achieving organizational goals. Specific focus on budgeting, resource allocation, technology, and policy development are addressed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5532. The School Superintendent: Chief Educator and Chief Executive II. 3 Credit Hours.
This is a year-long course. Semester I enables the candidate to know; Semester II enables the candidate to be able to do. The prerequisite is EDAD 5531: The School Superintendent: Chief Educator and Chief Executive I. A school system is a human organization whose mission is the education of children and youth. The system is composed of a series of interdependent parts, including the formal organization, informal organization, people, status and role-expectancy pattern, and the physical environment. The dynamic forces of the systems concept is integrative. At its core is a goal structure around which the organization is designed, and to which the separate but interrelated components are functionally and operationally united to serve the purpose for which it exists. In a school system, the systems approach focuses upon the transforming of human and nonhuman resources into educational programs and services through the interaction of human and related system elements. Leadership and Administration in a contemporary educational environment is a social process that takes place within the context of a standards aligned system. This process can be viewed through three points of view. Structurally, leadership and administration is seen as relationships among levels of responsibility within the system. Functionally, these relationships are the locus for allocating and integrating roles and resources in order to achieve the goals of the system. Operationally, the administrative process takes effect in situations involving person-to-person interactions. The ways in which the total system is designed and implemented, from the subsystems to the integrated whole, can affect the willingness of system members to cooperate in achieving organizational goals. Specific focus on budgeting, resource allocation, technology, and policy development are addressed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5552. Issues in Higher Education. 3 Credit Hours.
The purpose of this seminar is to provide an introduction to the theory and practice of student affairs in American colleges and universities. This course looks at the responsive and adaptive nature of institutions of higher education.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5551. The Two Year College. 3 Credit Hours.
This course provides a critical analysis of the characteristics, scope, public policy issues, and impact of two-year colleges in the United States.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
EDAD 5615. Gender Issues in Education. 3 Credit Hours.
This course is a graduate-level seminar intended to place gender at the center of the discussion of education, in general, and educational leadership, in particular. Although gender is at the heart of this course, considerable emphasis is also placed on the intersection of race and social class in education.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5641. Finance and Business Management. 3 Credit Hours.
Basic principles of finance and administration with an emphasis on practical implications for the workplace constitute the framework for this course. Simulation of budgets and finance problems enhance understanding.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5651. School Plant. 3 Credit Hours.
The planning, construction, operation, and maintenance of the school plant is discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5652. Educational Policy: Decision Making. 3 Credit Hours.
This blended policy course focuses on public policymaking and its impact on K-16 institutions. Discussions of contemporary decision-making theories guide this course. Practical applications to education policy and decision making are detailed utilizing decision-making practices in budgeting, public administration, drug trafficking, and information systems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5653. Educational Leadership as Civic Leadership. 3 Credit Hours.
This course aims to instill sensitivity in the students to the importance of civic leadership and an understanding of the potential for education leaders to engage systematically and productively with their various "publics" to promote the common good.

Department Restrictions: Must be enrolled in one of the following Departments: Education:Policy/Org/Lead Stud.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Educational Administration.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Education.

Repeatability: This course may not be repeated for additional credits.

EDAD 5654. Leadership in Higher Education. 3 Credit Hours.
While many Educational Administration classes on leadership focus on the functional roles and hierarchical structures of leaders within the educational institutions, this class will focus on the development and expression of individual leadership qualities.

Department Restrictions: Must be enrolled in one of the following Departments: Education:Policy/Org/Lead Stud.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Educational Administration.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Education.

Repeatability: This course may not be repeated for additional credits.

EDAD 5655. Higher Education Economics and Finance. 3 Credit Hours.
This course provides aspiring administrators and academics, interested in research and teaching in higher education, with a basic overview of economics and finance in higher education.

Department Restrictions: Must be enrolled in one of the following Departments: Education:Policy/Org/Lead Stud.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Educational Administration.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Education.

Repeatability: This course may not be repeated for additional credits.
EDAD 5661. Personnel Administration. 3 Credit Hours.
This course examines the principles, policies, and processes of personnel administration in school systems. It may satisfy an elective in programs leading to the Master of Education degree, principal's certification or central certification in Pennsylvania, and the Doctor of Education degree.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5671. Public Relations. 3 Credit Hours.
This course provides an introduction to school public relations, policies, and practices.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5711. Politics of Education. 3 Credit Hours.
This course draws its intellectual base from research and theory in political science and public policy. Additionally, these disciplines provide the frameworks used to interpret the political dynamics among actors in schools, universities, governmental agencies, and other organizations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5715. Instructional Leadership. 3 Credit Hours.
This course focuses on the principles and practices directed toward the improvement of the relationship between the individual and the organization, as well as the development of a positive organizational climate.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5742. Pro-Seminar in Ed Policy. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5746. Management of School Fiscal Affairs. 3 Credit Hours.
The focus is on basic accounting principles, records, and reports appropriate for school fund financial management and bond accounting, cash management, and encumbrance systems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5771. School Law. 3 Credit Hours.
This course focuses on the legal principles within which public education functions. Court cases and school codes are analyzed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5772. Law and the Administration of Higher Education. 3 Credit Hours.
This course emphasizes the legal principles within which higher education functions, with emphasis on structure, personnel, programs, property, and finance.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 5895. School Violence: Risk Prevention. 3 Credit Hours.
This seminar provides descriptive analyses reflective of the differing perspectives of students, teachers, principals, and parents, and various concerns and issues. This interactive class examines successful school violence prevention programs, how they are influenced by school policy, and how they are administered.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
EDAD 8067. Case Study Research Approaches. 3 Credit Hours.
Case study methods for clinical investigations and field studies in school are presented.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 8093. Administration Research Seminar. 3 Credit Hours.
This course is intended to assist students in the dissertation proposal process. It focuses on the dissertation topic and key questions; the literature review for the proposal; the methodological plan for the research; and a timeline for moving toward the proposal defense.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 8461. Ethical Leadership. 3 Credit Hours.
This course focuses on ethics, primarily from an analytical perspective. It is designed to explore the moral and ethical dimensions of the work of educational leaders, in particular, school superintendents and special education practitioners dealing with an over-representation of diverse learners. The hope is to assist these leaders to resolve ethical dilemmas in more reflective, intelligent, and principled ways.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 8553. Democratic, Equitable, and Ethical Leadership. 3 Credit Hours.
This course is designed to be a research project in spirit and function. Specifically, we seek to answer this question: What are the underlying qualities that make an individual a democratic, ethical leader? While some answers have been reported in the field, the case is hardly closed because the problem is far from a simple one. Rather than employing a didactic and deductive process of imposing a definition upon students, our approach will follow an inductive process patterned after Bruner's (1974) concept attainment model. Using a wide cross-section of women and men from the US and around the world, both in our own time and from time past, the class will consider the common qualities these leaders demonstrate as they faced their greatest personal and professional challenge. Some will come directly from the field of education. Others are identified with different professions. These have had a major impact on society and have, therefore, shaped education. The class will consider this inductive study of leaders and construct a vibrant and organic definition of democratic ethical leadership that will inform the practice of class members.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EDAD 8635. Education Policy Analysis. 3 Credit Hours.
This course will focus on current issues in education policy, with an emphasis on identifying underlying causes and exploring potential solutions to problems facing public schools. Although the primary focus will be on education policies, we will also consider social policies that shape educational opportunity and schooling. Throughout the semester we will evaluate the evidence for and against various policies, using the tools of policy analysis. Using the tools of policy analysis, our focus will be on understanding the problems these policies are trying to solve, the success of existing policies, and the potential alternative policies that might be available to solve them. While it is impossible to provide an in-depth analysis of such a broad topic, we will cover many of the major initiatives including school finance reforms, market-based reforms, accountability, and teacher recruitment and evaluation. While the content for the first four sessions is set, specific topics for the remaining sessions will be determined at the beginning of the semester to reflect the interests of enrolled students. Note: Prior to summer 2, 2017, the course title was "Current Issues in Educational Policy."

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
EDAD 8636. Research for Change. 3 Credit Hours.
Educational leaders, particularly superintendents, are increasingly being held accountable for student performance and achievement, but also for how data are collected, presented and used to monitor students' progress and to inform other decision-making in school districts. The purpose of this course is to help participants acquire the abilities to critically consume, evaluate and produce research and evaluation information that leads to change in leadership. This course focuses on developing skill sets to critique research and to conceptualize, design and conduct practitioner-based research projects specifically related to the practice of educational leadership. Emphasis will be placed on understanding how educational research contributes to knowledge about effective professional practices related to student performance and achievement. Research design, data collection and analysis procedures, coupled using data to inform leadership decision will be explored through lecture, class discussion, readings, small work group activities and individual/team projects. Individual and team projects are the primary vehicles for applying analytical tools and research procedures for change in leadership. In addition, the course addresses professional and ethical standards for best practice in developing, implementing and using research information. The framework and content for this course are based on standards developed by the Pennsylvania Inspired Leadership program. Ideally, research helps educational leaders question, explore, analyze, and summarize problems of interest. Methods, designs and data analysis procedures are selected to match the specific research topic, question or context. In order to make these choices wisely, educational leaders should have exposure to and knowledge of a variety of tools and procedures. In general, this course examines the logic and procedures of research and evaluation of educational issues with a heavy emphasis on application (i.e., use of data sources, sub-group analysis for decision making). This course (structured in a research workshop format) offers a doctoral-level survey of research and evaluation methods in education focused on decision-making. The course will cover both the theory and practice of research for change in educational leadership settings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

EDAD 8653. Civic Leadership. 3 Credit Hours.
This course is designed to introduce participants to the research on and practice of civic leadership. We will discuss the basic concepts, theories, and practices related to this dimension of leadership, specifically in regard to our own roles as educational leaders.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

EDAD 8755. Organizational Dynamics. 3 Credit Hours.
Educators who wish to exercise leadership need to understand their organizations in sophisticated ways. In an era marked by turbulence, rapid change and a rising chorus of seemingly confused perspectives, this may appear to be an elusive goal. Yet, those are the conditions in which we find ourselves. If we faced a simple task, it might do to use one point of view. But how do we know that others share our particular way of looking at things? How do we know that we have the clearest way of understanding our organization? Is there even one possible best way? It seems most appropriate and wise to try to see organizations from several vantage points and through the theoretical thinking of many scholars. The purpose of this course is to help you understand organizations in newer, more complex ways and to further your ability to use this enhanced perspective to move your organization along.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

EDAD 8775. Understanding Organizational Dynamics in Educational Settings. 3 Credit Hours.
Educators who wish to exercise leadership need to understand their organizations in sophisticated ways. In an era marked by turbulence, rapid change and a rising chorus of seemingly conflicting perspectives, this may appear to be an elusive goal. Yet, those are the conditions in which we find ourselves. If we faced a simple task, it might do to use one point of view. But how do we know that others share our particular way of looking at things? How do we know that we have the clearest way of understanding our organization? Is there even one possible best way? It seems most appropriate and wise to try to see organizations from several vantage points and through the theoretical thinking of many scholars. The purpose of this course is to help you understand organizations in newer, more complex ways and to further your ability to use this enhanced perspective to move your organization along.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

EDAD 8785. Collective Negotiations. 3 Credit Hours.
The negotiations process in relation to the chief school administrator's responsibilities is discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
EDAD 8787. Administration of Higher Education. 3 Credit Hours.
The development and scope of higher education, the principal organizational components of colleges, and contemporary problem areas are emphasized.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

EDAD 8905. Advanced Seminar I. 3 Credit Hours.
Intensive group work on selected administrative topics is undertaken.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

EDAD 8935. Values, Ideology & Education. 3 Credit Hours.
This course assists students in identifying the cultural forces, institutional features, policy network activities, and interest groups influencing education policy decision making in governmental arenas and other organizations.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

EDAD 8941. Planning in Higher Education. 3 Credit Hours.
The planning process in the college and university context is presented.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

EDAD 9189. Field Experience. 3 Credit Hours.
Practical administrative experience in one’s own school system is undertaken.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

EDAD 9285. Internship in Administration (Part I). 3 Credit Hours.
This course is designed to fulfill the internship requirements for a person seeking the Pennsylvania Letter of Eligibility certificate (school superintendent, K-12), the New Jersey certification, and for others seeking similar practical experiences. The internship serves as a bridge between university coursework and the world of professional practice in the school community. It helps aspiring leaders translate what they study into effective practices in an authentic work setting. The student engages in administrative work under the direction of an on-site mentor (an administrator or supervisor) in a school district either where the student is employed or in another district.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

EDAD 9286. Internship in Administration (Part II). 3 Credit Hours.
This course is designed to fulfill the internship requirements for a person seeking the Pennsylvania Letter of Eligibility certificate (school superintendent, K-12), the New Jersey certification, and for others seeking similar practical experiences. PA requires 360 hours of field experience. In order to be recommended for the Letter of Eligibility certificate, the student must complete two semesters of an Internship. During each semester the candidate should spend 120 hours beyond their regularly scheduled duties for a total of 240 hours (EDAD 9285 and EDAD 9286). These are each 3 semester hours. The remainder of the experience hours are found in the other courses and add up to an additional 120 hours. The internship serves as a bridge between university coursework and the world of professional practice in the school community. It helps aspiring leaders translate what they study into effective practices in an authentic work setting. The student engages in administrative work under the direction of an on-site mentor (an administrator or supervisor) in a school district either where the student is employed or in another district.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.
EDAD 9289. Secondary Field Experience. 1 to 6 Credit Hour.
Practical administrative experience in one’s own school system is undertaken.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EDAD 9982. Independent Study. 1 to 6 Credit Hour.
Coursework is conducted on an individual basis with approval of the advisor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EDAD 9999. Doctor of Education Dissertation. 1 to 6 Credit Hour.
Candidates who have successfully completed the preliminary examination must register continuously during the Fall and Spring terms until the dissertation has been accepted.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.

Educational Psychology (EPSY)

Courses

EPSY 5499. ILT: Instructional Technology and Learning. 3 Credit Hours.
Introduces characteristics and applications of basic instructional and computer technology in the teaching-learning process. Students will gain hands-on experience in the use of computer and adaptive and/or augmentative hardware and software.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EPSY 5501. ILT: Multimedia Learning. 3 Credit Hours.
Provides conceptual discussion and hands-on exploration of technology applications including graphic, photographic, multimedia, audio, and video materials.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EPSY 5502. ILT: Desktop Publishing and Web Design. 3 Credit Hours.
Prepares students for effective design characteristics for written and web pages. Students will create documents and web pages using appropriate software applications.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EPSY 5505. ILT: Authoring Systems. 3 Credit Hours.
Students explore capabilities of various authoring software. Based on instructional design principles, students will develop an interactive learning environment that includes various elements of sound, graphics and motion.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EPSY 5523. Introduction to Educational Psychology. 3 Credit Hours.
The application of psychological theories to the learning processes and development of children and adolescents including the principles and procedures of assessment and evaluation as they relate to academic achievement and to teaching-learning activities. The primary objective is to facilitate a clear understanding of the complex and dynamic processes of learning and development as they related to the principles of learning and teaching.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
EPSY 5529. Tests and Measurements. 3 Credit Hours.
An introduction to tests and measurements. Reliability, validity, interpretation of standardized test manuals. Survey of standardized aptitude, achievement, and personality tests. Students learn how to construct valid classroom tests.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EPSY 5531. Learning Theories and Education. 3 Credit Hours.
This survey course covers the nature of theory, the epistemological foundations of learning, and major theories of learning. Focusing on application in educational settings, the course includes associationist, behaviorist, cognitive information processing, and constructivist learning theories.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EPSY 5541. Concepts in Human Development. 3 Credit Hours.
Covers the major theoretical orientations and methodological approaches to human development. Uses a life-span approach to cognitive, social, and physical development, genetic influences, parental influences, language and perceptual development, intelligence, peer influences, parenting practices, moral development, and the development of gender identity among other issues.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EPSY 5551. Introduction to Program Evaluation. 3 Credit Hours.
Methods and approaches to evaluation; planning and conducting evaluations; problems confronting the evaluator; professional issues.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EPSY 5561. Development and Learning Over the Lifespan. 3 Credit Hours.
This course is intended for master's and doctoral students seeking an introductory survey of how humans develop and learn in several key areas across the lifespan. To this end, the course addresses typical trajectories of development and learning in three major domains: cognition, social competence and interaction, and physical and motor skills. We will examine both domain-general theories of development and learning that guide thinking across all three domains of interest, as well as essential domain-specific theories and recent empirical research relevant to just one or two domains.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EPSY 8625. Intermediate Educational Statistics. 3 Credit Hours.
Survey of issues, problems, and approaches involved in using ANOVA, correlational, and nonparametric procedures. Emphasizes guidelines for selecting statistical tests, computer-aided computation, and interpretation of results.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EPSY 8627. Introduction to Research Design and Methods. 3 Credit Hours.
The primary goals of this survey course are to help students understand (a) how to make optimal decisions with respect to their own research, (b) evaluate the decision-making and research practices of other researchers, and (c) that there is no one “best” method (i.e., the best method depends on a researcher's goals; avoid mismatching goals and methods). To be an effective decision-maker, a researcher has to coordinate multiple goals and develop a set of effective options for meeting these goals. The present course is designed to help students identify their goals, develop a set of plausible options (i.e., possible research methods), and evaluate the pros and cons of these options. It is also hoped that students will gain increased insight into the ethics of research and how to write effective journal articles and research proposals. Ideally this course should be taken early in one's program and in conjunction with an epistemology of research course. It is hoped that the one-class introduction to a specific methodology (e.g., ethnography or meta-analysis) will prompt a student to take a follow-up course that spends the entire semester on that method.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
EPSY 8629. Test Construction and Validation. 3 Credit Hours.
Students will plan, develop, construct, revise, and validate an instrument. Methods for assessing reliability and validity (especially construct validity) are emphasized. Item analysis techniques are included. Basic approach and components of Item Response Theory (IRT), including introduction to the Rasch models.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EPSY 8638. Seminar in Instructional Theories. 3 Credit Hours.
Examines contemporary instructional theories and models. Includes consideration of various conceptions of the learner and the instructional process.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EPSY 8639. Instructional Design and Development. 3 Credit Hours.
Covers strategies and techniques for creating or modifying instructional resources. Emphasis will be given to instructional design models for the systematic design of instruction, including adaptive and/or augmentative technology. Students will employ a specific instructional design model and apply select instructional theories in the design of an instructional unit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EPSY 8735. Proseminar in Learning. 3 Credit Hours.
Extended treatment of selected topics in educational psychology concentrating on issues dealing with learning and instruction.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EPSY 8741. Proseminar in Human Development. 3 Credit Hours.
Extended treatment of selected topics in human growth and development.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EPSY 8825. Advanced Data Analysis. 3 Credit Hours.
A survey of statistical techniques involving both between groups and correlational analyses. Students use SPSS to analyze data.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EPSY 8826. Multivariate Research Methods. 3 Credit Hours.
A survey of multivariate data analysis procedures, with a focus on parametric techniques. Students use computer library programs (SPSS) to analyze data.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EPSY 8827. Experimental Design. 3 Credit Hours.
Emphasizes parametric analyses of variance and covariance, and their nonparametric analogs. Students use computer library programs (SPSS) to analyze data.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
EPSY 8960. Seminar Series: Problems in Educational Psychology. 3 Credit Hours.
Specified problems, research, and practice in educational psychology. May be repeated for credit. Specific offerings change from semester to semester; contact Department for current offerings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EPSY 8970. Seminar Series: Problems in Educational Psychology. 3 Credit Hours.
Specified problems, research, and practice in educational psychology. May be repeated for credit when approved by the instructor. Specific offerings change from semester to semester; contact Department for current offerings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EPSY 8980. Seminar Series: Problems in Educational Psychology. 3 Credit Hours.
Specified problems, research, and practice in educational psychology. May be repeated for credit when approved by the instructor. Specific offerings change from semester to semester; contact Department for current offerings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EPSY 8985. Teaching in Higher Education. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EPSY 8986. Proseminar in Educational Psychology. 3 Credit Hours.
The main purpose of the Proseminar in Educational Psychology is to advance students' professional development in the domain of educational psychology. The course aims to contribute to the development of knowledge of the field of educational psychology and simultaneously to students' exploration of their career goals in the field.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EPSY 9287. ILT: Practicum in Instructional Technology. 3 Credit Hours.
Provides for one hundred hours of hands-on experiences working in a professional organization consistent with the student's goals and objectives.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EPSY 9982. Independent Study in Educational Psychology. 1 to 6 Credit Hour.
A course intended to meet the needs of students who desire to carry on individual investigation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EPSY 9991. Directed Res & Teach Pse. 1 to 12 Credit Hour.
Supervised apprenticeship in an educational activity central to educational psychology. Examples of possible apprenticeships are: research apprenticeship, educational program evaluation apprenticeship, educational product development apprenticeship, and teaching apprenticeship.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
EPSY 9995. Master's Capstone in Educational Psychology. 3 Credit Hours.
In this course, students completing a master's degree in educational psychology will work with an advisor to construct a capstone project. Drawing on the program's core ideas in human learning and development, as well as psychological principles in education, students will complete a summative project in which they apply these ideas to a real-world problem in the field. The final product for the course will include a written document summarizing this work.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

EPSY 9996. Master's Thesis in Educational Psychology. 1 to 6 Credit Hour.
Limited to those who plan to complete the master's degree by writing a thesis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

EPSY 9999. Dissertation in Educational Psychology. 1 to 6 Credit Hour.
Dissertation research limited to doctoral candidates.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.
Repeatability: This course may be repeated for additional credit.

Electrical Engineering (ECE)

Courses

ECE 5022. Engineering Analysis and Applications. 3 Credit Hours.
Vector space, basis, projection, null space, function space, L2 and space of continuous functions, Hilbert space, orthogonality, generalized Fourier series, linear transformation, adjoint transformation, eigenvalue problem, linear functional, Gateaux and Frechet differential, constrained optimization, infinite dimensional systems, complex analysis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ECE 5033. Probability and Random Processes. 3 Credit Hours.
Sets and events, Random variables, Distribution and density functions, Functions of multiple random variables, Moments and conditional statistics, Information entropy, stochastic processes, wide-sense stationary process, ergodicity, correlation, and power spectrum of stationary processes. Applications to sampling theory and signal modulation and detection.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ECE 5116. Spacecraft Systems Engineering. 3 Credit Hours.
The concept of systems engineering is introduced using a satellite application. Systems engineering is a top-down approach to the design, implementation, testing, and deployment of large-scale systems to meet the needs of users. The topics will include systems engineering methodology, dynamics of spacecraft, and celestial mechanics. This course will also introduce the notion of invention and innovation, and how they are related to the intellectual property issues.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ECE 5314. Microelectronics. 3 Credit Hours.
Advanced study of electronic devices and their applications to linear, non-linear, and digital circuits; transistors, FET's, amplifiers, digital integrated circuits, and VLSI's; Software design emphasized. A term project will be assigned.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
ECE 5324. VLSI System Design and Testing. 3 Credit Hours.
An introduction to a hierarchical design methodology of VLSI; study of basic logic elements and design methods in nMOS and CMOS; development of testable designs; the physics of MOS devices and fabrications processes; design rules and computation of circuit parameters from layout; system level design techniques; circuit structures with built-in self-test, design-for-test and self-checking features.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ECE 5314/Minimum Grade of C|May not be taken concurrently.

ECE 5344. Fundamentals of Bio-MEMS and Biomedical Microdevices. 3 Credit Hours.
The course introduces the basic concepts for design and principle of bio-micro-electro-mechanical systems (BioMEMS) and biomedical micro-integrated systems. Wireless communication in context to biomedical devices are described. Microelectronics process modules used in the design and fabrication of MEMS and micro-integrated systems are presented. Applications of these systems in a variety of sensors and transducers are considered. Recent advances in biomedical applications of MEMS are discussed in detail.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECE 5412. Control System Analysis. 3 Credit Hours.
Review of control concepts and application; state space representation of dynamical systems; controllability, observability; time invariant and time varying systems, design of full state feedback and output feedback systems; eigenstructure assignment; the linear quadratic regulator; Kalman filter; estimation and filtering; robust control via eigenstructure design, Kharitonov theorem, application examples.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECE 5432. Game Theory and Applications in Engineering. 3 Credit Hours.
The course covers the basic framework for strategic games and its various manifestations. Topics include matrix games, extensive form games, mixed strategies, repeated games, Bayesian games, and cooperative games. The course continues with various applications of game theory in engineering systems. The course also covers applications of game theory as a design tool for engineering multi-agent systems, i.e., systems that are comprised of a collection of programmable decision-making components.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECE 5512. Intro Digital Comm. 3 Credit Hours.
Baseband pulse, digital, and passband communications systems; properties and bandwidth of signals and noise; detection of signals in noise; signal-to-noise ratio (SNR); distortionless transmission and intersymbol interference; pulse code modulation; amplitude, phase and frequency modulation and demodulation; simulation of communication systems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECE 5514. Digital Signal Processing Analysis. 3 Credit Hours.
Topics covered are: various types of digital signal processing (DSP) techniques such as convolution, correlation, and filtering, as well as Finite Impulse Response (FIR) and Infinite Impulse Response (IIR) all pass and comb digital filters, the Discrete Fourier Transform, and the use of MATLAB as a tool for DSP software tasks. A term project will be assigned.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECE 5516. Introduction to Communication Networks. 3 Credit Hours.
Introduction to Internet and TCP and IP protocols, telephone networks, Local Area Networks, packet switching, ATM, and other related topics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
ECE 5526. Engineering Principles of Computer Intrusion and Detection. 3 Credit Hours.
This course provides an introduction of computer intrusion and detection techniques. It gives theoretical and practical foundations necessary to continue further learning of computer security. We will study and analyze critical security vulnerabilities of software design and network and information systems. The learned skills are widely used by IT security analysts in industries. At the end of the class the students will be able to understand basic concepts of intrusion detection and traffic analysis from a practical point of view. This course will provide the tools and knowledge necessary to continue further learning in computer security and advance further in the profession.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ECE 5516|Minimum Grade of B-|May not be taken concurrently.

ECE 5528. Introduction to Cryptography and Information Security. 3 Credit Hours.
This course covers the theory and practice of computer communications security. Topics include symmetric encryption, public and private key cryptography, message digests, digital signatures, secure email, and various types of authentication methods. We will review various cryptographic primitives, algorithms, intrusion attacks, and security protocols.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECE 5538. Hardware and Industrial Control System Security. 3 Credit Hours.
This course covers the theory and practice of hardware and control system security. Topics include digital system security, side channel attacks on cryptographic systems, industrial control system security, and intellectual property protection. We will review hardware implementation of cryptographic primitives, secure hardware design, and security protocols. Note: Credits of this course will not apply to MSEE and PhD (EE) degree programs unless preapproved.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ECE 5528|Minimum Grade of B-|May not be taken concurrently.

ECE 5541. Hardware Security Lab. 3 Credit Hours.
This laboratory includes a university version of wired (with internet protocol suite of packets and layers) and wireless (with IEEE802.11 layers) equipment and physical network along with open source network security software. Depending on the application, the lab provides students flexibility to fully analyze protocols and security vulnerability with respect to the network, Programmable Logic Controller (PLC), and power grid, etc. Students gain hands-on experience from role-playing both as a black-hat hacker by instigating attacks and a white-hat hacker by performing digital forensics and penetration tests. Note: Credits of this course will not apply to MSEE and PhD (EE) degree programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECE 5548. Secure Computer Memory Architecture and Intrusion Prevention Methodologies. 3 Credit Hours.
This course covers physical computer memory organization and areas of vulnerability such as susceptibility to buffer overflow and Direct Memory Access (DMA) attacks. An overflow attack happens when the data written to a physical memory exceeds its allocated buffer size, which is in violation of memory safety rules. DMA happens when a data transfer is done via direct physical memory access, thus bypassing operating system's supervision. Such a "back door" access is intended to increase the hardware performance throughput but inadvertently creates a major hole in system security. This course analyzes physical memory design methodologies to prevent such intrusions. Note; Credits of this course will not apply to MSEE and PhD (EE) degree programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
ECE 5558. Reverse Engineering. 3 Credit Hours.
This course covers methodologies, equipment and software tools used to extract information and build knowledge from sophisticated modern-era hardware and software systems for reverse engineering purposes. Some systems require invasive and destructive technique to get to the source of the information, while for others, non-invasive monitoring and fault injection are sufficient methods. Reverse engineering equipment and tools include but are not limited to debuggers, disassemblers, logic analyzers, oscilloscopes, and simulators. Note: Credits of this course will not apply to MSEE and PhD (EE) degree programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECE 5562. Wireless Communications Engineering. 3 Credit Hours.
This course provides a comprehensive introduction of physical-layer wireless communications, including: Cellular concepts; Wireless channel modeling; Modulation techniques; Multiple access techniques; Channel coding and wireless system capacity; Receiver diversity; Transmit diversity and multiple-input multiple-output (MIMO) technology; Equalization; Orthogonal frequency division multiplexing (OFDM); Wireless systems and standards, and latest developments in wireless technologies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECE 5564. Cloud Computing Security. 3 Credit Hours.
This course first introduces students to the essentials of a cloud computing environment: technologies, infrastructure, platforms, and application software. Students then build a cloud computing system to monitor its vulnerability, build security measures, and attack it to further refine the security solution. OpenNebula Systems, an open source cloud computing management toolkit and a commercial cloud computing service, will be used for the exercises.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECE 5566. Forensics for Cyber Physical Systems Security. 3 Credit Hours.
This course first introduces students to the construct of today's cyber physical system, which is an integration of software and hardware (cyber and physical), built upon an infrastructure of communications network. Cyber physical systems are an integral part of our daily lives that must deliver ultimate safety, security, and reliability, such as in automotive, medical, transportation, power, water, and nuclear energy systems. Therefore, an attack on any such system can be catastrophic. We will analyze hardware components and structure and study their vulnerability to exact forensic artifacts, and why it is important to have trust-worthy hardware, starting from secure integrated circuit design and manufacturing as a baseline. Tools will be used in investigation and forensic analysis. Advanced topics go beyond identification of the attack vector and region, and root causes by researching on self-monitoring, self-repair and self-healing hardware.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECE 5568. Engineering Project Quality and Risk Management, and ISO Standards. 3 Credit Hours.
This course covers quality and risk management which are under the umbrella of project management, both go hand-in-hand to ensure best practices for engineering for products. Four components of quality management are quality planning, quality assurance, qualify control and quality improvement. Also covered is ISO9001, quality management systems standards. Risk management includes enterprise risk management strategy, risk assessment, risk responses, risk communication and awareness training, and risk acceptance. Also covered is ISO 27001 and 2 on information security standards and best practices.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
ECE 5572. Certificate Preparation - (ISC)2/CISSP-Information Systems Security. 3 Credit Hours.
The International Information Systems Security Certification Consortium (ISC)2 is a non-profit organization that specializes in information security certifications, which demonstrate certificate owners' competence in the subject manner. (ISC)2 is known as the "world's largest IT security organization" and among its certificates, Certified Information Systems Security Professional (CISSP) is the most widely valued. This course covers preparation for the CISSP-ISSEP certification, where ISSEP (Information System Security Engineering Professional) focuses on engineering aspects of the CISSP. The ISSEP exam focuses on four areas of information security: (1) Systems Security Engineering, (2) Certification and Accreditation (C&A) / Risk Management Framework (RMF), (3) Technical Management, and (4) United States Government Information Assurance Related Policies and Issuances. Note: Credits of this course will not apply to MSEE and PhD (EE) degree programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ECE 5574. Certificate Preparation - Cisco Networking Academy. 3 Credit Hours.
This course uses Cisco Networking Academy material to cover various Cisco Certified Network Security topics concentrating on network security principals, tools, and configurations, and includes a hands-on lab equipped with Cisco networking equipment. Note: Credits of this course will not apply to MSEE and PhD (EE) degree programs

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ECE 5575. Capstone Project. 3 Credit Hours.
A Capstone Project is a work-study project where a student with support from his/her sponsoring entity works on a current or emerging challenge on cybersecurity. Engineering Resilient Systems (ERS) is an example of a DoD sponsored Capstone Project. Through Capstone Project, a student will develop tools and procedures to produce a complete and robust product requirement, make efficient and effective engineering decisions, consider manufacturability of a system design, and establish a baseline resiliency including Tactics, Techniques, and Procedures (TTP) against threats. Note: Credits of this course will not apply to MSEE and PhD (EE) degree programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ECE 5600. Graduate Seminar. 0 Credit Hours.
Required seminar for graduate students in Electrical and Computer Engineering for scientific and professional development. Speakers for these seminars include prominent researchers from academic and professional backgrounds. Students will be graded on participation of at least 70% of the bi-weekly seminars during the semester.

Department Restrictions: Must be enrolled in one of the following Departments: Engineering:Elec Engineering.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

ECE 5612. Advanced Processor Systems. 3 Credit Hours.
Hardware description language (Verilog) design of processor systems for digital signal processing and data communication. Projects will be assigned in simulation and synthesis of dataflow and processor architectures targeting field programmable gate arrays (FPGA).

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ECE 5622. Introduction to Computer Architecture. 3 Credit Hours.
Instruction set architectures, Register Transfer Level hardware description. Data-path design. Controller design. Caches and memory systems. Addressing. Microprogramming. Computer arithmetic. Survey of current computers and microprocessors. Projects will include Verilog/VHDL implementation of data-path components and testing them on FPGAs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
ECE 5712. Power Systems Engineering. 3 Credit Hours.
This course introduces the modern power systems and its changing landscape. The course covers the basics of power generation and transformers, and an introduction to power electronic devices, AC transmission and distribution, power flow, economic dispatch, transient and stability analysis, short circuit analysis, and HVDC systems, power system protection, power market deregulation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECE 5714. Introduction to Intelligent Systems Engineering. 3 Credit Hours.
Introduction of the use of artificial intelligence techniques to develop intelligent systems. The course gives the student 1) an overview of what artificial intelligence is and its current state; 2) an overview of intelligent systems --what they are and their possible future role in society; 3) a practical and theoretical knowledge of expert systems, their development, implementation and maintenance and 4) an introduction to intelligent tutoring systems and to provide a perspective about the potential impact of these systems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECE 5722. Power Electronic Devices and Systems. 3 Credit Hours.
This course introduces power electronic devices and circuits, and their applications in modern power systems. Topics include DC-DC converters in buck and boost topologies, and their modeling and feedback control; AC-DC rectification and control; DC-AC inverters, modeling, and voltage and frequency control; Three-phase inverters, and HVDC transmission. This course will use Matlab/Simulink simulation for student projects and homeworks.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECE 5732. Electric Machines and Drives. 3 Credit Hours.
Fundamentals of electromechanical energy conversion, electric drives and systems. Transformers, DC machines, synchronous machines, induction motors, dq-transformation, vector control of induction motors, reluctance motors, single phase motors, brushless dc motor. Introduction to power electronics and their applications in power drives.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECE 5826. Information Theory. 3 Credit Hours.
Information Theory is a field that has been central to the development of modern communications and computing technologies. The goal of this course is to provide the student with a thorough understanding of the concepts of entropy and information, and how to apply these to real world problems such as speech recognition, language engineering, signal compression, and financial modeling. A secondary goal is to develop a mathematically rigorous understanding of methods for measuring and manipulating various measures of information in signals and systems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ECE 3522|Minimum Grade of B-|May not be taken concurrently.

ECE 5999. Research Experience in Electrical Engineering. 0 Credit Hours.
Research Experience provides graduate students laboratory experiences/research practices prior to undertaking independent, directed, master project, master's thesis, or dissertation research. This course allows graduate students the opportunity to learn the use of laboratory equipment, designing and carrying out an experiment(s), collecting preliminary data, field experiences, and participation in laboratory meeting, etc. with faculty which may lead to identifying a faculty mentor. The course will be graded Pass (P) or Fail (F). The Research Experience is a non-repeatable course. After the completion of ECE 5999 - Research Experience in ECE, students will need to be enrolled in independent study, directed research, master's research, master's thesis, dissertation proposal, or dissertation if they continue in an active research program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
ECE 8110. Special Topics in Electrical and Computer Engineering. 3 Credit Hours.
Selected advanced topics in various major research areas under electrical and computer engineering.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ECE 8324. Mixed Signal VLSI Design. 3 Credit Hours.
Basic MOS device physics, single state amplifiers, frequency response, op amps, switched capacitor circuits, short-channel effects, amplifier design for wireless communication, low power static RAM architectures, layout and packaging.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ECE 5324|Minimum Grade of C|May not be taken concurrently.

ECE 8334. Nano Applications, MEMS & NEMS. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ECE 5324|Minimum Grade of C|May not be taken concurrently.

ECE 8412. Optimal and Robust Control. 3 Credit Hours.
Concept of optimality, calculus of variations, Euler-Lagrange equation, Pontryagin's minimum principle, Bellman's equation, Kalman filter, uncertainties in physical systems; structured and unstructured uncertainties; application of the Lyapunov method to robust control problems; robust optimal control; state space design for finite and infinite horizon problems; H-infinity design.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ECE 5412|Minimum Grade of C|May not be taken concurrently.

ECE 8414. Adaptive Control. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ECE 5412|Minimum Grade of C|May not be taken concurrently.

ECE 8512. Signal Processing and Communication Theory. 3 Credit Hours.
Coherent and non-coherent detection of binary and M-ary signals in noise; waveform coding, linear block coding; convolutional, cyclic and turbo codes; error probability and bandwidth-efficiency plane in the design of digital communications systems; multipath and fading channels; simulation of communication systems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ECE 5512|Minimum Grade of C|May not be taken concurrently
AND ENGR 5033|Minimum Grade of C|May not be taken concurrently)
ECE 8514. Applications in Digital Signal Processing. 3 Credit Hours.
FIR and IIR digital filter design, finite word length effects, filter banks, multirate signal processing, spectral analysis (classical, modern, parametric and nonparametric techniques), adaptive filtering (Wiener filter theory) and speech production, analysis, and processing tools and speech coding. Computer experiments using MATLAB will be an integral part of the course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ECE 5033|Minimum Grade of C|May not be taken concurrently.

ECE 8516. Design and Performance of Communication Networks. 3 Credit Hours.
An overview of the technologies, architectures and protocols used to build high-speed communication networks. Design and performance analysis techniques for computer communication networks. Topics will include: design and performance analysis of wired and wireless local networks, sensor networks, and Internet. Projects will include developing stochastic models, queuing analysis, and simulations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECE 8524. Speech Signal Processing. 3 Credit Hours.
Spectral analysis of non-stationary signals, short-time Fourier transform, homomorphic filtering and filter bank, Speech compression, and synthesis techniques. Weiner filtering for speech enhancement.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ECE 8514|Minimum Grade of C|May not be taken concurrently.

ECE 8525. Fundamentals of Speech Recognition. 3 Credit Hours.
This course introduces students to the theory and implementation of modern day speech recognition systems. We begin with a review of pattern recognition and machine learning, including topics such as Gaussian mixture models and Bayesian models. We then discuss the three main components of a speech recognition system: feature extraction, acoustic modeling and language modeling. We conclude the course with an overview of state of the art systems. Students will learn how to simulate and evaluate complex machine learning algorithms such as hidden Markov models and neural networks. Data-driven methodologies will be emphasized.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ENGR 5022|Minimum Grade of B-|May not be taken concurrently)
AND (ENGR 5033|Minimum Grade of B-|May not be taken concurrently)

ECE 8526. Information Theory. 3 Credit Hours.
Information Theory is a field that has been central to the development of modern communications and computing technologies. The goal of this course is to provide the student with a thorough understanding of the concepts of entropy and information, and how to apply these to real world problems such as speech recognition, language engineering, signal compression, and financial modeling. A secondary goal is to develop a mathematically rigorous understanding of methods for measuring and manipulating various measures of information in signals and systems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ENGR 5022|Minimum Grade of B-|May not be taken concurrently)
AND (ENGR 5033|Minimum Grade of B-|May not be taken concurrently)
ECE 8527. Introduction to Machine Learning and Pattern Recognition. 3 Credit Hours.
Pattern recognition theory and practice is concerned with the design, analysis, and development of methods for the classification or description of patterns, objects, signals, and processes. At the heart of this discipline is our ability to infer the statistical behavior of data from limited data sets, and to assign data to classes based on generalized notions of distances in a probabilistic space. Many commercial applications of pattern recognition exist today, including voice recognition, fingerprint classification, and retinal scanners. Recent developments in statistical modeling using Bayesian techniques, neural networks, decision trees, fuzzy logic, and syntactic structures have accelerated the growth of pattern recognition applications. The objective of this course is to introduce fundamental methods of pattern recognition, both statistical and neural, with examples from several application areas.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ENGR 5022|Minimum Grade of B-|May not be taken concurrently)
AND (ENGR 5033|Minimum Grade of B-|May not be taken concurrently)

ECE 8528. Advanced Topics in Statistical Modeling for Engineering Applications. 3 Credit Hours.
This course builds on a basic knowledge of machine learning and reviews recent advances in the field. It is a research-oriented course intended to complement a student's thesis or dissertation research. The course will focus on a selection of emerging machine learning algorithms and analyze contemporary publications on these techniques. The emphasis will be on algorithms suited to large, complex data sets. Both supervised and unsupervised learning methodologies will be discussed. Applications will be drawn from several signal processing disciplines including speech, image and bioengineering applications.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ENGR 5022|Minimum Grade of B-|May not be taken concurrently)
AND (ENGR 5033|Minimum Grade of B-|May not be taken concurrently)
AND (ECE 8527|Minimum Grade of B-|May not be taken concurrently)

ECE 8529. Fundamentals of EEG Processing. 3 Credit Hours.
Electroencephalography (EEG) records electrical activity along the scalp, measuring spontaneous electrical activity of the brain. The signals measured along the scalp can be correlated with brain activity, which makes it a primary tool for diagnosis of brain-related illnesses. EEG specialists review these waveforms and develop a diagnosis. EEGs traditionally have been used to diagnose epilepsy and strokes. Other common clinical uses have been for diagnoses of coma, encephalopathies, brain death and sleep disorders. EEGs are increasingly being used to diagnose head-related trauma injuries and Alzheimer's disease. Hence, there is a growing need for expertise to interpret EEGs and, equally important, to understand how these conditions manifest themselves in the EEG signal. In this course we will discuss the techniques neurologists use to manually interpret EEGs. A vast archive of clinical EEG recordings will be studied. Since EEG signals are very low-level electrical signals, we will then discuss digital signal processing that is used to convert the raw electrical signals into visualizations that can be readily interpreted. We will also introduce machine learning techniques that are used to automatically interpret and transcribe these signals.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECE 8622. Advanced Computer Architecture. 3 Credit Hours.
Advanced course in the design and analysis of computer architecture. Topics will include instruction level parallelism, digital signal processors, network processors and multi-microprocessors. Projects will focus on the design, design analysis and FPGA implementations of computing systems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ECE 5322|Minimum Grade of C|May not be taken concurrently.
ECE 8712. Power Systems Operation and Control. 3 Credit Hours.
The emphasis of this course is on computational issues that arise in the analysis and solution of the large-scale operations and control problems in actual power systems. Topics include power flow analysis, contingency analysis, security analysis, load forecasting, economic dispatch, unit commitment, optimal power flow, state estimation, and bad data detection, etc. Additional topics for real time control of power system include substation automation, EMS system architecture, distribution management system (DMS), RTU's and PMU's, and situational awareness and visualization.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ECE 5712|Minimum Grade of B-|May not be taken concurrently.

ECE 8722. Applications of Advanced Power Electronics Technologies. 3 Credit Hours.
In this course, we will start from the basic components and operation principle of power electronic converters and their advanced applications in modern power systems. In particular, the following topics will be included: converter topologies used for grid applications, converter control approaches, AC and DC microgrids, converter interfaced energy storage systems, smart inverters in distribution automation, etc. Applications of power electronic devices and systems used in modern power systems will be presented.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ECE 5722|Minimum Grade of B-|May not be taken concurrently.

ECE 9182. Independent Study I. 3 Credit Hours.
Special study in a particular aspect of engineering under the direct supervision of a graduate faculty member. May be taken once by MS/MSE students and once by Ph.D. students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ECE 9282. Independent Study II. 3 Credit Hours.
Special study in a particular aspect of engineering under the direct supervision of a graduate faculty member. May be taken once by Ph.D. students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ECE 9324. VLSI Physical Design. 3 Credit Hours.
This course provides a comprehensive background in the principles and algorithms of VLSI physical design. The algorithms are presented in an intuitive manner so that the student can concentrate on the basic idea of the algorithms. The students are provided enough details to implement the algorithms.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ECE 8324|Minimum Grade of C|May not be taken concurrently)
AND (ECE 5324|Minimum Grade of C|May not be taken concurrently)

ECE 9412. Nonlinear Control System. 3 Credit Hours.
Modeling of nonlinear systems, types of nonlinearity; Phase Plane Analysis, construction of phase portrait, limit cycle, saddle point; Existence and uniqueness of solutions, sensitivity; Lyapunov Stability, region of attraction, construction of Lyapunov functions; Perturbation Analysis variation of parameters, Method of averaging, Describing Functions, frequency domain analysis; Sliding Mode Control, sliding surface; Feedback Linearization, Lie algebra, state and output linearization, applications.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ECE 8412|Minimum Grade of C|May not be taken concurrently.
ECE 9512. Detection, Estimation, and Modulation Theory. 3 Credit Hours.
Signal detection and estimation in white and non-white noise, MAP estimation, applications in data and telecommunications. Wiener and Kalman-Bucy filters, linear and non-linear modulation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
Pre-requisites:
ENGR 5033|Minimum Grade of C|May not be taken concurrently.

ECE 9514. Adaptive Signal Processing. 3 Credit Hours.
Adaptive filter techniques such as Weiner filter, Linear Prediction, Least-Mean-Square, Recursive Least-Squares, Kalman Filtering algorithms. Introduction to the application of adaptive filters to communications, control, and speech processing.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
Pre-requisites:
(ECE 5514|Minimum Grade of C|May not be taken concurrently
AND ECE 8514|Minimum Grade of C|May not be taken concurrently

ECE 9524. Digital Image Processing. 3 Credit Hours.
P2D digital filters, digital image edge detection and segmentation, feature extraction, deblurring, wavelet transforms, JPEG image compression, Fourier optics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
Pre-requisites:
ECE 8514|Minimum Grade of C|May not be taken concurrently.

ECE 9622. Parallel Processing Architectures. 3 Credit Hours.
This course provides an in-depth study of the design, engineering, and evaluation of modern parallel computers. Design issues covered include: naming, replication, synchronization, latency, overhead, and bandwidth. Other topics include scalable multiprocessors and interconnection network design.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
Pre-requisites:
ECE 8612|Minimum Grade of C|May not be taken concurrently.

ECE 9991. Directed Research. 1 to 6 Credit Hour.
Under the guidance of a faculty member, students will select a topic in electro-technology to be researched using at least five references. An extensive research paper must be submitted which will be reviewed by two faculty members. The project report must also be presented at an open seminar. Projects related to industrial applications are encouraged. For non-thesis students only.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

ECE 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
This course is intended for Ph.D. students who have completed their coursework but who have not yet passed both the Ph.D. Preliminary Examination.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.
ECE 9995. Project. 1 to 3 Credit Hour.
Under the guidance of a faculty member, students will select a topic in electro-technology to be researched using at least five references. Student present the research at an open seminar, and submits an extensive research paper, which will be reviewed by two faculty members. Projects related to industrial applications are encouraged. For non-thesis students only.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

ECE 9996. Thesis. 1 to 3 Credit Hour.
Under the guidance of a faculty member, students will select a topic in electro-technology, and conduct research leading to submission and oral presentation of a thesis proposal and the final defense of the thesis. For thesis students only.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

ECE 9998. Pre-Dissertation Research. 1 to 6 Credit Hour.
This course is intended for Ph.D. students who have passed both the Preliminary and Qualifying Examinations but who have not been elevated to candidacy.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

ECE 9999. Dissertation Research. 1 to 6 Credit Hour.
This course is intended only for those students who have achieved Ph.D. Candidacy status. A minimum of 6 semester hours is required for graduation.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Student Attribute Restrictions:** Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

**Repeatability:** This course may be repeated for additional credit.

**Elementary Education (ELED)**

**Courses**

ELED 9789. Field Experience in Supervision. 3 Credit Hours.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**Engineering (ENGR)**

**Courses**

ENGR 5011. Engineering Mathematics I. 3 Credit Hours.
This is a survey course in essential mathematics for first-year graduate students in engineering and physical sciences. Topics include analytic methods in ordinary differential equations, complex-variable theory, the laplace transform and its inversion, and initial-value problems and boundary-value problems. Matlab, numerical methods, and introductory numerical algorithm design are introduced.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

ENGR 5012. Engineering Mathematics II. 3 Credit Hours.
This is a survey course in classical numerical and analytical methods for partial differential equations, for first-year masters and doctoral students in engineering and physical sciences. Topics include analytic methods and numerical methods for partial differential equations in cartesian and non-cartesian coordinate systems, and an introduction to perturbation theory. The course will emphasize quantitative analysis, and assignments will entail computational algorithm design.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.
ENGR 5022. Engineering Analysis and Applications. 3 Credit Hours.
Vector space, basis, projection, null space, function space, L2 and space of continuous functions, Hilbert space, orthogonality, generalized Fourier series, linear transformation, adjoint transformation, eigenvalue problem, linear functional, Gateaux and Frechet differential, constrained optimization, infinite dimensional systems, complex analysis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ENGR 5031. Engr Prob Stats Stoc Met. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ENGR 5032. Probability, Statistics, and Stochastic Methods. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ENGR 5033. Probability and Random Processes. 3 Credit Hours.
Sets and events, Random variables, Distribution and density functions, Functions of multiple random variables, Moments and conditional statistics, Information entropy, stochastic processes, wide-sense stationary process, ergodicity, correlation, and power spectrum of stationary processes. Applications to sampling theory and signal modulation and detection.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ENGR 5110. Special Topics. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENGR 5116. Spacecraft Systems Engineering. 3 Credit Hours.
The concept of systems engineering is introduced using a satellite application. Systems engineering is a top-down approach to the design, implementation, testing, and deployment of large-scale systems to meet the needs of users. The topics will include systems engineering methodology, dynamics of spacecraft, and celestial mechanics. This course will also introduce the notion of invention and innovation, and how they are related to the intellectual property issues.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ENGR 5117. Experimental Methods. 3 Credit Hours.
Application and design of experimental techniques and measurement systems used in engineering laboratories. Introduction to the DMM, digital scope, and computer-based data acquisition systems for measurements of force, motion, pressure, temperature, and flow in steady and unsteady systems. Data transmission, data analysis and presentation, and computer interfacing techniques. Statistical methods and uncertainty analysis. Hands-on experience with state-of-the-art instrumentation systems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ENGR 5314. Continuum Mechanics. 3 Credit Hours.
This course covers tensors, kinematics of a continuum, stress, integral formulations, linear isotropic elastic solid, and an introduction to Newtonian Fluid (CLO 3).

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
ENGR 5334. Dynamical Systems. 3 Credit Hours.
This course focuses on the algebraic and differential equations governing the static and dynamic 3D motion of 3D bodies, including vectors, vector differentiation, and dyads. The equations of motion for multibody systems will be derived using Newton-Euler, Lagrange, and Kane's methods. Computational tools for 3D force and motion analysis will be used to simulate physical systems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ENGR 5511. Fluid Dynamics. 3 Credit Hours.
Navier-Stoke's equation, Laminar and turbulent flow, boundary layer phenomena, compressible fluid flow including isotropic flow, shock waves, friction flow, and flow with heat transfer.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ENGR 5576. Computational Fluid Dynamics. 3 Credit Hours.
This course provides an introduction to numerical methods for solution of initial and boundary value problems with special emphasis on finite element and finite difference discretization methods. Students learn to implement the algorithm by using MATLAB programming to solve problems in heat transfer and fluid flow.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ENGR 8110. Special Topics. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENGR 9182. Independent Study I. 3 Credit Hours.
Special study in a particular aspect of engineering under the direct supervision of a graduate faculty member. May be taken once by MS/MSE students and once by Ph.D. students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENGR 9185. Exper Engineer Prof I. 1 to 3 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENGR 9282. Independent Study II. 3 Credit Hours.
Special study in a particular aspect of engineering under the direct supervision of a graduate faculty member. May be taken once by Ph.D. students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENGR 9285. Exper Engineer Prof II. 1 to 3 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENGR 9990. Engineering Seminar. 1 to 3 Credit Hour.
Students present their research results at an open seminar. The seminars may be arranged on a biweekly basis over the semester. Active participation of all graduate students is expected.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
ENGR 9991. Directed Research. 1 to 6 Credit Hour.
Under the guidance of a faculty member, the student will conduct independent research on a selected topic in engineering.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENGR 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
This course is intended for Ph.D. students who have completed their coursework but who have not yet passed both the Ph.D. Preliminary Examination.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENGR 9995. Project. 1 to 3 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENGR 9996. Thesis. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENGR 9998. Pre-Dissertation Research. 1 to 6 Credit Hour.
This course is intended for Ph.D. students who have passed both the Preliminary and Qualifying Examinations but who have not been elevated to candidacy.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENGR 9999. Dissertation Research. 1 to 6 Credit Hour.
This course is intended only for those students who have achieved Ph.D. Candidacy status. A minimum of 6 semester hours is required for graduation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.

Engineering Management (EMGT)

Courses

EMGT 5631. Design Thinking. 1.5 Credit Hour.
Many technologists view design as a function that takes place after the product or solution has been developed. Design thinking offers an alternative, customer driven approach to the commercialization of technological innovation, which embeds potential customer usage patterns into the development from the outset. Design thinking is thus a radical approach to the design process that enables much higher levels of innovation (and therefore commercial success) into the design process, especially in comparison with the traditional view of design that tends to foster incremental thinking. In this course we will share case studies of successful and unsuccessful product design, and provide participants with a series of tools to help them understand and deploy a design thinking process. In the course we will share frameworks for identifying market and technology trends that can stimulate opportunities for radical designs based on user engagement. With an improved understanding of the design thinking process participants will be better prepared for commercial success, whether they work in a large company deploying new solutions, or are interested in starting their own venture. The course will place particular emphasis on the importance and role of experimentation and learning from failure, as well as provide access to a series of tools that can help an organization decide whether, or not, to continue with a specific development process. In this course, students learn theories and practices for innovation, tools and methods for design inquiry, and characteristics of “design attitude.” The course emphasizes hands-on project and studio-style project works.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
EMGT 5632. Idea to Invoice: Managing the New Product Development Process. 3 Credit Hours.
The course is designed to give technology students insights into the market and commercial factors that should be considered when developing new products or technologies. This course offers students the chance to understand and apply a number of analytical, decision making, and planning tools that can be used to guide the development of new products (and services) from idea to the marketplace (invoice). The course highlights critical issues associated with linking business objectives to technology development, and how each influences the other. Specific topics addressed include: the development of new product strategy and policy, selection of product market strategies, deployment and application of new product development processes, portfolio management, product development tools and metrics, market research, and importantly the people and organizational issues associated with the product development process. Participants in the course will learn to appreciate the advantages of introducing more formal new product development processes that break down the overall process into stages, and understand how and why the consideration of different strategic, technical and financial issues at each stage improve the likelihood of long-term commercial success. Not only will the course prepare participants for an active role in the product development process in a large organization or to participate in the technology development process in a new venture, they will also be prepared to obtain a certificate as a New Product Development Professional (NPDP) Certification offered by the PDMA.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EMGT 5633. Management Principles for Innovators, Engineers and Technologists. 3 Credit Hours.
This is an introductory course for engineers and technologists who have no formal business training. It includes an introduction to the theory of the firm and the principles of management. It includes looking at the evolution of management, and the new roles for leaders and managers in innovative organizations. The course also gives a basic overview of corporate finance, and explains the various components of balance sheets, profit and loss and cash flow statements. Finally, the course deals with basic human resource and people management issues in the contexts of large organizations trying to adapt to rapid changes in the market.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EMGT 5634. Project Management Overview and Project Management Essentials. 1.5 Credit Hour.
This course is designed for individuals working in both large and small organizations who are often faced with the challenges of managing multiple priorities and projects with limited resources. Whether these projects include a research and development project, the opening of a new production line, or the construction of a new facility, individuals are accountable for their on-time and on-budget performance. This course is an introduction course and follows a life-cycle approach to managing projects, beginning with project initiation concerns and ending with project termination.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EMGT 5635. Financial Management for Technologists. 1.5 Credit Hour.
This course provides students with a real world understanding of what the key financial reports of a company actually mean and what is really important as a manager. It focuses on understanding profit and loss statements, budgets and cash flows. Also, it examines various methods for calculating financial return, and provides tools to help participants better budget, track project costs and decide between project alternatives.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EMGT 5636. Lean Six Sigma and the Science of Improvement. 3 Credit Hours.
The discipline of quality management is increasingly recognized as an essential element in the management of any company. Quality management provides a number of approaches and tools to help individuals in both large and small organizations ensure that products and solutions consistently meet and exceed customer expectations, while ensuring that the company’s processes maximize operational efficiency. In this course we will introduce a number of quality management tools: Six-Sigma, kaizen and TQM, that participants will be expected to deploy on actual cases. In addition, students will be provided with an overview of statistical tools that are essential when deploying a quality management system (i.e. Pareto Analysis, correlations and regression). The course will also focus on developing appropriate measurement systems, in order to use quantitative as well as qualitative tools to help identify specific areas that need attention. This will help quantify the magnitude of identified problems, prioritize the sequence in which each is going to be addressed, and then measure improvements made. The course is essential to those operating in larger companies, but the tools deployed will be useful to anyone looking to improve the effectiveness and efficiency of a smaller business, including those running their own ventures.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
EMGT 5637. Marketing Technological Products and Services. 1.5 Credit Hour.
This course applies the theories and constructs of marketing to the challenges of marketing technological products and services to organizational buyers. A firm's marketing initiatives can directly impact firm revenues (and costs), and ultimately firm value. It is therefore essential that managers understand the process of developing and managing marketing strategy (target market selection and customer value proposition). This course provides insight into marketing programs (product, promotion, place, and pricing), and describes how those programs can be integrated to yield a superior customer value proposition. A focus on technological products and business-to-business customers will be maintained throughout the course. Various pedagogical methods are utilized, including lectures, case studies, in-class presentations, and group projects.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EMGT 5638. Executive Engineering Leadership. 1.5 Credit Hour.
This is an eclectic, interactive course aimed at facilitating technology professionals for the development of a deeper understanding of selected topics that contribute to heightened self-awareness as the foundation for a higher level of personal and executive development and effectiveness. The course examines the inter-relatedness between leadership and management, cognitive and affective aspects of executive behavior and managerial decision-making. It includes topics such as individual self-analysis of leadership style, communications skills, personal goals and values, interpersonal skills, team-building, negotiation skills, conflict management and group dynamics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
EMGT 5633|Minimum Grade of B-|May be taken concurrently.

EMGT 5639. Advanced Financial Management for Technologists. 1.5 Credit Hour.
This course is a continuation of EMGT 5635 and studies problems in planning, controlling, and directing engineering through the perspective of financial analysis. The course will examine the constructs of profitability, liquidity, and the organizational structure of the engineering function using financial analysis and forecasting. Financial techniques will be applied to adjust engineering operations to meet the organization's total financial position and goals. Various pedagogical methods are utilized, including lectures, homework and quiz assignments, exams, and a team financial analysis project of technology based organization.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
EMGT 5635|Minimum Grade of B-|May be taken concurrently.

EMGT 5642. Project Management – Project Planning, Implementation and Case Study. 1.5 Credit Hour.
This course follows EMGT 5634 and includes project planning and scheduling which are given the most emphasis, making use of the PERT and CPM approaches. A course project is required. This course is designed to provide simple project management tools to help participants define project scope, agree on project milestones and track project performance. For individuals with multiple projects, learning these project management techniques is both an essential way of assigning priorities and increasing the likelihood of good performance, and in communicating with project participants and other stakeholders to allocate responsibilities and monitor outcomes. This course will provide participants with a number of project management tools and the opportunity to deploy them on case studies, in order for them to learn which tools are most appropriate for a specific application. In addition, the experience of using project management tools will help them to make sure they establish the groundwork for success when taking on new projects. Participants in this course may also gain credits for certification from the Project Management Institute (PMI).

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
EMGT 5634|Minimum Grade of B|May be taken concurrently.

EMGT 8110. Special Topics in Engineering Management. 1.5 to 3 Credit Hour.
Selected topics in Engineering Management. Please consult with instructor for detailed description.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
EMGT 9682. Independent Study in Engineering Management. 3 Credit Hours.
The Independent Study course will allow students to work on a relevant project in the field of Engineering Management under the direct supervision of faculty.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EMGT 9995. Capstone for Engineering Management. 3 Credit Hours.
The Capstone course will allow students to complete final projects in their Engineering Management program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

English (ENG)

Courses

ENG 5011. Early British Literature. 3 Credit Hours.
Topical readings that emphasize pre-Renaissance literature and criticism. Readings may include material from other periods as well. Content varies. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 5012. Early American Literature. 3 Credit Hours.
Topical readings that emphasize American literature and criticism prior to 1800. Readings may include material from other periods as well. Content varies. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 5014. 16th and 17th Century British Literature. 3 Credit Hours.
Topical readings that emphasize Renaissance and/or Restoration literature and criticism. Readings may include material from other periods as well. Content varies. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 5016. 18th Century British Literature. 3 Credit Hours.
This course surveys major literary figures and representative literary forms of the 18th Century. We will consider literature's relation to political, social, and cultural developments.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 5018. 19th Century British Literature. 3 Credit Hours.
Topical readings that emphasize Romantic and/or Victorian literature and criticism. Readings may include material from other periods as well. Content varies. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 5021. 19th Century American Literature. 3 Credit Hours.
Topical readings that emphasize nineteenth-century American literature and criticism. Readings may include material from other periods as well. Content varies. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
ENG 5022. 20th and 21st Century British Literature. 3 Credit Hours.
Topical readings that emphasize British literature and criticism since about 1900. Readings may include material from other periods as well. Content varies. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 5024. 20th and 21st Century American Literature. 3 Credit Hours.
Topical readings that emphasize American literature and criticism since about 1900. Readings may include material from other periods as well. Content varies. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 5026. Anglophone Literatures. 3 Credit Hours.
Topical readings that emphasize writing in English from African, Australia, the Caribbean, India, and other places besides Britain and America. Readings may include material from any time period. Content varies. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 5028. Literatures in Translation. 3 Credit Hours.
Introductory readings that emphasize world literature and criticism from any time period. Content varies. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 5031. Translation Study. 3 Credit Hours.
An introduction to the theory and practice of translation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 5032. Book History. 3 Credit Hours.
An introduction to the theory and practice of book history.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 5100. Topics - Literary Genres. 3 Credit Hours.
An introduction to the characteristics and problems of genre. Readings may emphasize poetry, non-fiction prose, the novel, drama, biography, autobiography, or other topics related to genre. Content varies. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 5200. Topics - Literature and Culture. 3 Credit Hours.
Content varies. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 5300. Topics - Cinema and Media Arts. 3 Credit Hours.
An introduction to cinema and media history and theory. Content varies. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
ENG 5301. Methods in Cinema and Media Studies. 3 Credit Hours.
An introduction to ways of reading, writing on, and teaching film. Content varies. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 5401. Introduction to Digital Text Methods. 3 Credit Hours.
This course introduces students to the technical and theoretical aspects of working with digital texts. Classes will consider the conceptual differences between digital and print forms of textuality, the relationship between methods of quantitative computational analysis and the discipline's historic focus on qualitative analysis, the logic of specific analytical tools, the history of computer-assisted textual analysis, and other theoretical problems inherent in thinking about digital texts. Typical topics may also include current text encoding methods, such as TEI; current textual data formatting for digital editions using XML; textual transformations, using XSLT or other programming languages; and specific computational methods of textual analysis, such as topic modeling, network analysis, and stylometry.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ENG 5500. Topics - Critical Theory. 3 Credit Hours.
Content varies. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 5501. History of Critical Theory. 3 Credit Hours.
An introduction to critical schools from classical antiquity to the present.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 5502. Current Directions in Critical Theory. 3 Credit Hours.
An introduction to recent and/or contemporary critical theory.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 5600. Special Topics in Creative Writing. 3 Credit Hours.
A required course for MFA creative writing students. Special Topics in Creative Writing has both critical and creative writing components. The topic varies from year to year.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 5601. Poetry Workshop. 3 Credit Hours.
Open only to students in the Creative Writing MFA program. Intensive discussion of student poetry and the work of established poets whose concerns are related to those of the students. Frequent individual conferences.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 5602. Fiction Workshop. 3 Credit Hours.
Open only to students in the Creative Writing MFA program. Intensive discussion of student fiction and the work of established fiction writers whose concerns are related to those of the students. Frequent individual conferences.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
ENG 5603. Craft in Creative Writing. 3 Credit Hours.
Focuses on craft elements of fiction or poetry. Content varies according to instructor and genre. Required course for M.F.A. candidates.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

ENG 5701. Composition Research Methods. 3 Credit Hours.
An overview of current work in rhetoric and composition, and concentrated study in such areas as history of rhetoric, analyzing student texts, and evaluation.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

ENG 5702. Historical Studies in Language and Rhetoric. 3 Credit Hours.
An introduction to historical study in language and/or rhetoric from classical antiquity to the present.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

ENG 5710. Topics - Literacy and Language. 3 Credit Hours.
Content varies. May be repeated for credit.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

ENG 5720. Topics - Rhetoric and Composition. 3 Credit Hours.
Content varies. May be repeated for credit.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

ENG 8101. Advanced Study - Early English Literature. 3 Credit Hours.
Advanced study of topics in pre-Renaissance literature and criticism. Readings may include material from other periods as well. Content varies. May be repeated for credit.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

ENG 8102. Advanced Study - Early American Literature. 3 Credit Hours.
Advanced study of topics in American literature and criticism prior to 1800. Readings may include material from other periods as well. Content varies. May be repeated for credit.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

ENG 8104. Advanced Study - 16th and 17th Century British Literature. 3 Credit Hours.
Advanced study of topics in Renaissance and/or Restoration literature and criticism. Readings may include material from other periods as well. Content varies. May be repeated for credit.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

ENG 8106. Advanced Study - 18th Century British Literature. 3 Credit Hours.
Advanced study of topics in Restoration and/or eighteenth-century British literature and criticism. Readings may include material from other periods as well. Content varies. May be repeated for credit.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.
ENG 8108. Advanced Study - 19th Century British Literature. 3 Credit Hours.
Advanced study of topics in Romantic and/or Victorian literature and criticism. Readings may include material from other periods as well. Content varies. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 8109. Advanced Study - 19th Century American Literature. 3 Credit Hours.
Advanced study of topics in nineteenth-century American literature and criticism. Readings may include material from other periods as well. Content varies. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 8202. Advanced Study - 20th and 21st Century British Literature. 3 Credit Hours.
Advanced study of topics in British literature and criticism since about 1900. Readings may include material from other periods as well. Content varies. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 8204. Advanced Study - 20th and 21st Century American Literature. 3 Credit Hours.
Advanced study of topics in American literature and criticism since about 1900. Readings may include material from other periods as well. Content varies. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 8205. Advanced Study - Anglophone Literature. 3 Credit Hours.
Advanced study of topics in writing in English from African, Australia, the Caribbean, India, and other places besides Britain and America. Readings may include material from any time period. Content varies. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 8301. Advanced Study in Translation. 3 Credit Hours.
Advanced study of topics in the theory and practice of translation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 8302. Advanced Study in Book History. 3 Credit Hours.
Advanced study of topics in the theory and practice of book history.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 8304. Advanced Study in Genre. 3 Credit Hours.
Advanced study of topics in genre. Content varies. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 8402. Advanced Study in Cinema and Media. 3 Credit Hours.
Advanced study of topics in cinema and media history, criticism, and theory. Content varies. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
ENG 8501. Advanced Study in Critical Theory. 3 Credit Hours.
Advanced study of topics in critical theory. Content varies. May be repeated for credit.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

ENG 8704. Advanced Study in Literacy and Language. 3 Credit Hours.
Advanced study of topics in literacy and language. Content varies. May be repeated for credit.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

ENG 8706. Advanced Study in Rhetoric and Composition. 3 Credit Hours.
Advanced study of topics in rhetoric and composition. Content varies. May be repeated for credit.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

ENG 8900. Advanced Study in Literature and Culture. 3 Credit Hours.
Advanced study of topics in literary and cultural studies. Content varies. May be repeated for credit.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

ENG 8904. TU/Penn Exchange Poetics. 3 Credit Hours.
One student a year is permitted to register for one course in poetics at the University of Pennsylvania. Any student admitted to the graduate program in English can apply to participate in the exchange program.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

ENG 8985. Teaching in Higher Education: Writing. 3 Credit Hours.
An introduction to the theory and practice of writing instruction.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

ENG 9001. Introduction to Graduate Study. 3 Credit Hours.
An introduction to the methods and aims of literary research and varieties of critical theory. Required of doctoral students.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

ENG 9082. Independent Study. 1 to 6 Credit Hour.
Independent study. By arrangement.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

ENG 9083. Master’s Manuscript Tutorial. 3 Credit Hours.
For Creative Writing majors. A tutorial in which the creative manuscript required for graduation is developed. Related readings. Weekly conferences. Two semesters are required.

**Field of Study Restrictions:** Must be enrolled in one of the following Majors: English.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.
ENG 9089. Rome Seminar in Art and Culture. 6 Credit Hours.
For advanced undergraduate, graduate and post-doctoral students in fields such as literature, film studies, philosophy, art, and social theory. Graduate credit available. Summer session I.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 9100. Seminar in Literary and Cultural Studies. 3 Credit Hours.
Intensive reading and study of literary and cultural studies in a small class setting. Content varies. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 9200. Seminar in Cinema and Media Studies. 3 Credit Hours.
A seminar devoted to an exploration of a topic in media studies, such as a film or television genre, a national cinema, the work of a particular director or a critical and theoretical issue of current debate.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 9300. Seminar in Critical Theory. 3 Credit Hours.
Intensive reading and study of critical theory in a small class setting. Content varies. Can be taken for more than one credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 9400. Seminar in Rhetoric and Composition. 3 Credit Hours.
Intensive reading and study of rhetorical and/or composition in a small class setting. Content varies. Can be taken more than once for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
Advanced seminar for doctoral candidates.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 9995. Master’s Project. 1 to 6 Credit Hour.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 9996. Master’s Essay. 1 to 6 Credit Hour.
For doctoral candidates who select the M.A. option.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENG 9998. Pre-Dissertation Research. 1 to 6 Credit Hour.
Registration required each semester after Preliminary Examinations while researching the dissertation proposal.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
ENG 9999. Dissertation Research. 1 to 6 Credit Hour.
Dissertation research seminar for doctoral candidates.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.

**English Education (Elementary) (ENEE)**

**Courses**

ENEE 8602. Teaching Literature N:6. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ENEE 8604. Sem English Lang Ed N:6. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

**English Education (Secondary) (ENES)**

**Courses**

ENES 5641. Tchg Composition Sec Sch. 3 Credit Hours.
Looks at four major aspects of teaching writing: writing as a cognitive process, the development of writing abilities, approaches to the teaching of writing, and evaluating writing. Attends both to writing reader-based prose such as exposition, argumentation, and persuasion and writer-based prose such as creative and journal writing.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ENES 5642. Tchg Literature Sec Sch. 3 Credit Hours.
Designed for junior and senior high school teachers, the course focuses on theoretical framework, selection and organization of units of instruction, methods and materials appropriate for teaching literature. Attends to relating literature to learner needs, interests, and reading level.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ENES 8623. Applied Ling for Eng Tch. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ENES 8624. Tch New Grammars-Sec Sch. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ENES 8641. Sem in Tchg Reading N-12. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ENES 8642. Tchg Appl of Sound Syst. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ENES 8645. Sem English Language Ed. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.
ENES 8652. Tchg Eng to Other Lang. 1. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ENES 8653. Tch Eng Spk Other Lang. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ENES 8654. Issues in Eng Ed-S. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

ENES 8655. Seminar in Cur Pedagogy. 1 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

ENES 8656. Sem in Class Research. 1 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

ENES 8657. Seminar in Res & Tchg. 1 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

ENES 8734. Discourse Analysis Tchr-S. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ENES 8736. Theory Sec Lang Learn. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ENES 8742. Contexts/Literacy Dev. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ENES 8744. Current Issues Lang Educ. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ENES 9782. Special Projects Eng Ed. 1 to 12 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

ENES 9882. Grad Ind Study Eng Ed-S. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

ENES 9887. Seminar Pract in Commun. 3 to 6 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.
ENES 9987. Seminar Pract in Commun. 3 to 6 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

Environmental Health (ENVH)

Courses

ENVH 5013. Global Environmental Health. 3 Credit Hours.
This is an intermediate-level graduate course for those interested in environmental health and global health. Other graduate students may attend the course with the instructor's permission, provided they meet the course prerequisites. This course does not meet the core requirement for environmental health in the MPH program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ENVH 5103|Minimum Grade of B-|May not be taken concurrently
OR PBHL 5103|Minimum Grade of B-|May not be taken concurrently.

ENVH 5103. Environmental Health. 3 Credit Hours.
This course explores the effects of interactions between the environment and human health, and the ways that adverse effects may be mitigated. Environmental health hazards, including chemical, biological, and physical pollutants in air, water, soil, and food are addressed, as are risk analysis and risk communication as applied to environmental health. The course examines how problems and solutions are identified globally, nationally, and locally. The use of biological and chemical agents as weapons is also explored. This course is available online.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Social Work.
Repeatability: This course may not be repeated for additional credits.

ENVH 5202. Man-Made Disasters: Radiological, Chemical & Biological Terrorism. 3 Credit Hours.
This course is designed to introduce students to the concepts and models of public health preparedness, mitigation, and evaluation in the context of man-made disasters, including radiological, chemical and biological incidents. The course addresses identified core competencies of emergency preparedness for public health professionals that include disaster management, risk assessment, risk communication, governmental resources, functional roles, surveillance, and preparedness evaluation. Man-made disasters are looked at in a historical, environmental, and psychological context in order to elucidate the role of public health in man-made disaster preparedness and evaluation. In addition, the role of cultural competency and the needs of special populations are addressed. Public perception of risk and media views of man-made disasters are explored.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Social Work.
Repeatability: This course may not be repeated for additional credits.

ENVH 5301. Industrial Hygiene and Safety. 3 Credit Hours.
Anticipation, recognition, evaluation, and control of occupational and environmental health hazards are the focus of this course. Topics include recognition of hazards from chemical, physical, and biological agents; analytical and survey methods of hazard evaluation; and engineering solutions, administrative actions, and personal protective equipment for hazard control. This course is available online.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Social Work.
Repeatability: This course may not be repeated for additional credits.

ENVH 5305. Environmental Toxicology. 3 Credit Hours.
This course reviews the absorption, distribution, metabolism, and excretion of environmental toxicants. Methods used to measure acute and chronic toxicity, including carcinogenesis, are explored.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Social Work.
Repeatability: This course may not be repeated for additional credits.
ENVH 5306. Analytical Instrumentation. 3 Credit Hours.
Sampling and analysis of chemical and physical agents using laboratory-based methods and real-time monitoring are studied as well as sample collection and proper handling. Analytical applications of absorption spectroscopy in the ultraviolet, visible and infrared; atomic absorption; emission spectroscopy; mass spectrometry; and separation methods, including liquid chromatography, are examined.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ENVH 5307. HVAC in Environmental Health. 3 Credit Hours.
This course focuses on the use of ventilation to maintain suitable environmental conditions in work areas. Topics include dilution ventilation; comfort ventilation; local exhaust ventilation system design, including fan, duct, and hood selection; and ventilation system testing. This course is available online.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Social Work.

Repeatability: This course may not be repeated for additional credits.

ENVH 5308. Emergent Environmental Diseases. 3 Credit Hours.
This course focuses on the physiology and the relationship to occupational health of the following: allergies; cardiovascular system; ear, nose, and throat; eye; hematology; lung; neurology; neuromuscular-skeletal system; occupational hepatitis; psychiatry; and skin.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Social Work.

Repeatability: This course may not be repeated for additional credits.

ENVH 5401. Curriculum Construction in Health Education. 3 Credit Hours.
This in-depth examination of constructing, delivering, and evaluating curricula provides opportunity to develop curricular materials for teaching in school situations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Social Work.

Repeatability: This course may not be repeated for additional credits.

ENVH 8016. Human Health Risk Analysis. 3 Credit Hours.
This course is an introduction to the use of stochastic modeling to identify, assess, and manage environmental health hazards, risk assessment, and analysis through the lens of public health. Students will develop an understanding of the underlying sciences and mathematics that fall within exposure science and use Markov chain method to build exposure models.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
EPBI 5002|Minimum Grade of B|May be taken concurrently
OR PBHL 5002|Minimum Grade of B|May be taken concurrently.
ENVH 8019. Environmental Policy and Regulation. 3 Credit Hours.
This is an upper-level graduate course that focuses on the concepts of policy and regulatory systems meant for the protection and management of the environment in the United States, including the evolution of the regulatory systems and policy making process to address both legacy and emerging environmental issues and the factors that shape these policies and regulations. Emphasis will be placed on the development of the standards, enforcement, and compliance of selected federal environmental regulations and their equivalent enforcements at the state and local levels, and ultimately, how those regulations influence public health. The course might be of interest to those interested in understanding environmental policy and regulation in the U.S., identifying means to facilitate changes in environmental policy for human health and environmental protection, and how it provides foundation for other international policies and laws pertaining to environmental management and sustainability. Students may find this as an applied policy- and decision-making course. The course will bring in other experts, either in the form of team teaching or guest speakers, who will offer relevant and timely perspectives on topics of significant interest.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Pre-requisites:
(PBHL 5005|Minimum Grade of B-|May not be taken concurrently
OR SBS 5005|Minimum Grade of B-|May not be taken concurrently
OR HPM 5005|Minimum Grade of B-|May not be taken concurrently)
AND (PBHL 5103|Minimum Grade of B-|May not be taken concurrently
OR ENVH 5103|Minimum Grade of B-|May not be taken concurrently)

ENVH 8207. Environmental Epidemiology. 3 Credit Hours.
This intermediate course will cover selected topics in occupational and environmental epidemiology through a focus on specific health outcomes, such as non-malignant respiratory diseases, cancer, and musculoskeletal disorders, within the context of particular study designs or exposures. Students will have the opportunity to critically examine the current literature and to study contemporary issues in research. Exposure assessment, biomarkers, and emerging diseases within the context of the workplace and the environment will be addressed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Pre-requisites:
SBS 5102|Minimum Grade of B-|May not be taken concurrently
OR PBHL 5102|Minimum Grade of B-|May not be taken concurrently
OR EPBI 5201|Minimum Grade of B-|May not be taken concurrently
OR PBHL 5201|Minimum Grade of B-|May not be taken concurrently.

ENVH 8309. Exposure Assessment. 3 Credit Hours.
Exposure assessment is the multidisciplinary field that identifies and characterizes exposure to environmental agents; develops estimates of exposure for epidemiology, exposure-response, trend and surveillance, and risk assessment studies; and evaluates the significance of exposure of effectiveness of intervention strategies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Pre-requisites:
SBS 5102|Minimum Grade of B-|May not be taken concurrently
OR PBHL 5102|Minimum Grade of B-|May not be taken concurrently
OR EPBI 5201|Minimum Grade of B-|May not be taken concurrently
OR PBHL 5201|Minimum Grade of B-|May not be taken concurrently.

ENVH 9189. MPH Capstone Seminar. 3 Credit Hours.
This seminar is required of M.P.H. students during final year of study. The seminar includes integration of coursework and practice skills to develop a fieldwork project or internship in a public health agency.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Pre-requisites:
SBS 5102|Minimum Grade of B-|May not be taken concurrently
OR PBHL 5102|Minimum Grade of B-|May not be taken concurrently
OR EPBI 5201|Minimum Grade of B-|May not be taken concurrently
OR PBHL 5201|Minimum Grade of B-|May not be taken concurrently.

ENVH 9289. MPH Fieldwork I. 3 Credit Hours.
This course entails a fieldwork project or internship in a public health agency. It includes seminars, oral and written reports of progress, and joint supervision by a preceptor and faculty member.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Pre-requisites:
SBS 5102|Minimum Grade of B-|May not be taken concurrently
OR PBHL 5102|Minimum Grade of B-|May not be taken concurrently
OR EPBI 5201|Minimum Grade of B-|May not be taken concurrently
OR PBHL 5201|Minimum Grade of B-|May not be taken concurrently.
ENVH 9389. MPH Fieldwork II. 3 Credit Hours.
This course is an evaluation of the fieldwork project or internship using a full range of research methodologies. Data are collected, analyzed, and reported in a comprehensive final report. Oral and/or poster presentations are presented to public health organizations. The course includes a final oral defense of the project or internship.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Epidemiology and Biostatistics (EPBI)

Courses

EPBI 5002. Biostatistics. 3 Credit Hours.
This course introduces applied biostatistics as used in research in public health. Topics of study include statistical methods used for descriptive and analytic research, inferential statistics, surveillance systems, and statistical software used in public health.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Social Work.
Repeatability: This course may not be repeated for additional credits.

EPBI 5003. Spatial Analysis in Public Health. 3 Credit Hours.
This course will create a methodological framework for approaching public health issues within the context of spatial investigations of health and disease, both internally via perceptual mapping, and externally via geographic information systems (GIS). This integrative discipline provides the opportunity for students to draw upon the concepts and techniques of sound public health and add a spatial perspective to their analysis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

EPBI 5101. Fundamentals of Epidemiology. 3 Credit Hours.
This course introduces descriptive and analytical epidemiology. Concepts and methods used in public health are covered, with emphasis on the calculation and interpretation of indices of community health; morbidity and mortality rates; age-adjustment; and risk ratios, sensitivity, specificity, and predictive value of screening tests. Surveyed are epidemiological research designs, surveillance systems, and evidence-based practice guidelines. Note: This is an introductory course for students in public health and related fields. Master's and doctoral students who have strong quantitative skills and plan to conduct epidemiological research should enroll in EPBI 5201.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

EPBI 5201. Epidemiological Research Methods I. 3 Credit Hours.
This course provides an introduction to the fundamentals of conducting epidemiologic research and protocol development. It covers definitions of epidemiology; measures of disease frequency and risk assessment; measures of effect and association; epidemiologic study designs, including randomized clinical trials, cohort, case-control studies, and cross-sectional surveys; assessment of screening programs; an overview of the role of bias and confounding in epidemiologic study results; and analytic techniques, including modeling using multiple variables, survival analysis, and issues related to quality assurance. Note: This course is the introductory epidemiology course for students in the M.S. in Epidemiology or related Public Health degree programs that require advanced quantitative methods. May be taken in place of EPBI/PBHL 5101 for students in the M.P.H., M.S. in Environmental Health and Ph.D. programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

EPBI 5204. Mental Health Epidemiology. 3 Credit Hours.
Epidemiology of psychiatric disturbances is explored, including alcohol and other drug dependencies, psychosocial aspects of health and illness. The emphasis is on epidemiologic methods and theories in psychosocial and mental health research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Social Work.
Repeatability: This course may not be repeated for additional credits.
EPBI 5500. Seminar in Current Issues in Public Health. 3 Credit Hours.
Seminar topics rotate to address current issues in public health research, policy and practice.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Social Work.

Repeatability: This course may be repeated for additional credit.

EPBI 8001. Research Methods in Public Health. 3 Credit Hours.
This course examines how to develop and test models, formulate research problem statements and hypotheses, and implement and evaluate research designs and methods of data collection in public health research. It concentrates on fundamental concepts in research design and measurement that help prepare the student to plan and implement theoretically informed and methodologically sound scientific studies in public health and to critically evaluate and discuss public health research. The course emphasizes ethical and practical methods of studying and evaluating causal relations (efficacy and internal validity); determining generalizability of observations (effectiveness, external and ecological validity); and accurate and reliable measuring and conceptualizing of variables (construct validity). In addition, it covers systematic literature searches and randomized controlled trials, which are both increasingly important methods for conducting research in public health.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Social Work.

Repeatability: This course may not be repeated for additional credits.

EPBI 8002. Research Seminar in Public Health. 3 Credit Hours.
This is a research seminar on linkages between theory and research in social and behavioral health studies. It is required for Ph.D. students prior to taking the preliminary examinations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EPBI 8011. Social Epidemiology. 3 Credit Hours.
The purpose of this course is to provide an introduction for graduate students to the key social factors that are thought to influence health. These social factors include constructs such as gender, race, socioeconomic status, and social support. Understanding these social factors is important for public health research and practice. These factors can be considered "fundamental causes" of health outcomes insofar as they may cause or modify other factors that are known to influence health, such as individual behaviors or genetics. The course will focus on the conceptual and theoretical basis of these social factors, how these social factors are measured in epidemiologic research, and the mechanisms by which these social factors are thought to affect health. Students will have the opportunity to improve their skills in critically evaluating empirical data about the association between these social factors and health.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Social Work.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
EPBI 5101|Minimum Grade of B-|May not be taken concurrently
OR PBHL 5101|Minimum Grade of B-|May not be taken concurrently
OR EPBI 5201|Minimum Grade of B-|May not be taken concurrently
OR PBHL 5201|Minimum Grade of B-|May not be taken concurrently.

EPBI 8012. Multivariable Biostatistics. 3 Credit Hours.
The objective of the course is to provide basic theory and application of regression models, analysis of variance, nonparametric statistics, and survival analysis applied to the analysis of population-based data. The emphasis will be on generating and interpreting results and health related applications rather than on statistical theory. The course is designed for graduate students in public health who are already familiar with basic statistical concepts, including descriptive statistics, the components of statistical inference (p-values, hypothesis tests, confidence intervals, etc.), as well as concepts of confounding and effect modification.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
EPBI 5002|Minimum Grade of B-|May not be taken concurrently
OR PBHL 5002|Minimum Grade of B-|May not be taken concurrently.
EPBI 8201. Structural Equation Modeling. 3 Credit Hours.
An extremely rapid pace of change in statistics and methodology in the field of developmental processes and family systems requires that graduate students (and newly minted PhDs in academic and applied settings) be well versed in current data analytic techniques and able to keep abreast of emergent techniques by being aware of contemporary methodological literature. This course will illustrate the uses of structural equation models for cross-sectional, longitudinal, and family data analysis. The course is organized to take participants through each of the cumulative steps in the analysis: deciding which type of model is appropriate, setting up the data file and coding variables, interpreting and displaying empirical findings, and presenting results in both verbal and written form. Class time will be devoted primarily to lectures, examples, group discussions, and hands-on application of course material.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EPBI 8202. Epidemiological Research Methods II. 3 Credit Hours.
The content of this course illustrates statistical concepts, methods, and strategies used in epidemiologic studies, beyond the principles discussed in EPBI/PBHL 5201 (Epidemiological Research Methods 1). Topics include a review of basic study designs, analysis of prospective and retrospective data, assessment of bias, confounding, effect modification/interaction, statistical methods of stratification and adjustment, sample size/power calculations, importance of quality control and data monitoring in randomized clinical trials, critical determination of causality, and the comprehensive analyses, reporting and presentation of epidemiologic results.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
EPBI 5201|Minimum Grade of B-|May not be taken concurrently
OR PBHL 5201|Minimum Grade of B-|May not be taken concurrently.

EPBI 8203. Public Health Data Reporting. 3 Credit Hours.
Systematic reviews are essential tools for health care workers, researchers, consumers, and policymakers who need to keep abreast of the accumulation of knowledge within their field. Systematic reviews provide more objective evaluation of the evidence than has been possible with traditional narrative reviews, and so can help resolve uncertainty and point toward promising future directions in research and practice. When appropriate, meta-analyses can help increase the precision of estimates regarding treatment effects and way to improve treatments. For example, identification of subgroups of individuals most (or least) likely to benefit from treatment can generate new questions to be addressed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
EPBI 5101|Minimum Grade of B-|May not be taken concurrently
OR PBHL 5101|Minimum Grade of B-|May not be taken concurrently
OR EPBI 5201|Minimum Grade of B-|May not be taken concurrently
OR PBHL 5201|Minimum Grade of B-|May not be taken concurrently.

EPBI 8204. Multilev Mod in Int Res. 3 Credit Hours.
Interdisciplinary research nearly always involves data with a nested, hierarchical, or multilevel structure. Such data violate the standard statistical assumption of independence of observations. As well, the most important interdisciplinary research questions often involve understanding effects of one level of this structure on characteristics of another level of structure. Within the intervention contexts, individuals often serve as their own context as events unfold over chronological time. This course provides a broad and comprehensive introduction to analysis of multilevel data with an emphasis on questions which bridge disciplines. Participants should be familiar with the general linear model (analysis of variance, regression) prior to enrolling in this course, but no previous familiarity with mixed models (other than repeated measures ANOVA) is assumed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
EPBI 8205. Chronic Disease Epidemiology. 3 Credit Hours.
This intermediate course will cover selected topics in chronic disease epidemiology through critical examination of the current literature. Students will have the opportunity to study methodological issues, strategies for prevention, and contemporary issues in research. Coronary heart disease, cancer, diabetes, musculoskeletal disorders, chronic lung diseases and others will be addressed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
SBS 5102|Minimum Grade of B-|May not be taken concurrently
OR PBHL 5102|Minimum Grade of B-|May not be taken concurrently
OR EPBI 5201|Minimum Grade of B-|May not be taken concurrently
OR PBHL 5201|Minimum Grade of B-|May not be taken concurrently.

EPBI 8206. Infectious Disease Epidemiology. 3 Credit Hours.
This course provides the basis for understanding infectious diseases, disease transmission, risk factors, outbreak investigation and study designs, surveillance methods, and current infection-control strategies and mechanisms. The purpose of this course is to expose students to the principles and practices of infectious disease epidemiology and how communicable diseases and their control affect public health locally, nationally, and internationally.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
SBS 5102|Minimum Grade of B-|May not be taken concurrently
OR PBHL 5102|Minimum Grade of B-|May not be taken concurrently
OR EPBI 5201|Minimum Grade of B-|May not be taken concurrently
OR PBHL 5201|Minimum Grade of B-|May not be taken concurrently.

EPBI 8208. Data Management and Analysis. 3 Credit Hours.
The content of this course will illustrate practical concepts, methods, and strategies used in the development, management and analysis of large data sets through in-class and homework exercises, quizzes, and a final project. Each class session will be a mixture of a lecture, demonstration and hands-on SAS programming exercises.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
EPBI 5002|Minimum Grade of B-|May not be taken concurrently
OR EPBI 8012|Minimum Grade of B-|May not be taken concurrently.

EPBI 8209. Epidemiology of HIV/AIDS. 3 Credit Hours.
The epidemiology of HIV/AIDS is the subject of this course. Application of epidemiological principles and concepts in infectious disease epidemiology with emphasis on surveillance, research, prevention, and control are covered.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
EPBI 5101|Minimum Grade of B-|May not be taken concurrently
OR PBHL 5101|Minimum Grade of B-|May not be taken concurrently
OR EPBI 5201|Minimum Grade of B-|May not be taken concurrently
OR PBHL 5201|Minimum Grade of B-|May not be taken concurrently.
EPBI 8211. Epidemiology Grand Rounds. 1 Credit Hour.
The purpose of this course is to socialize, inform and engage graduate-level students in the broader profession of public health through promoting attendance of lectures and background readings of publications for invited speakers through the College of Public Health (CPH). This is a required course for the PhD Epidemiology program. The course will enable students to interact with researchers and practitioners from other settings and universities both nationally and internationally. The course will build students’ capacity to work in interdisciplinary teams and address challenging and complex public health problems. Four CPH invited speakers who are presenting their work on substantive programs in a wide range of public health topics will be identified. Enrollment in this course requires that students participate and attend the selected CPH sponsored lectures or symposiums during the term for which they are enrolled as well as participate in course specific meetings and deliverables. For example, prior to the lecture, students will conduct a guided literature search and develop a written review of the state-of-knowledge and gaps in literature related to the speaker’s topic. Students will also participate in a directed discussion prior to the invited lecture. Following the discussion, students will attend the lecture, meet with the invited speaker to ask questions, and complete a summary paper outlining the invited speaker’s contribution to the science.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(EPBI 5101|Minimum Grade of B-|May be taken concurrently
OR EPBI 5201|Minimum Grade of B-|May be taken concurrently)
AND (EPBI 5002|Minimum Grade of B-|May be taken concurrently)

EPBI 8212. Grantsmanship in Health Research. 3 Credit Hours.
This course will provide students with applied advanced epidemiologic research methods to critically assess gaps in current knowledge and to develop a competitive grant proposal application. Students will apply the epidemiologic methods and knowledge from prior courses and gain expertise in assessing gaps in knowledge, innovative thinking, grant conception, development and writing, study implementation and approach, budget preparation, and grant critiques. In the first half of the course, students will be introduced to the concepts of significance and innovation, identifying gaps in knowledge, choosing an epidemiologic research topic, identifying a funding agency and developing a set of specific aims, significance and innovation statements. In the second half of the course, the grant proposal will be written in the format of an NIH pre-doctoral epidemiology research grant following NIH grant application guidelines including a developed research plan, identified research team, and NIH biosketch and human subject protection plans. Students will be introduced to the concepts of power, sample size and effect size and will calculate necessary power and sample size requirements in the finalized grant proposal. Students will also participate in a mock grant review session. Students will use this opportunity to develop and submit an application for an NIH or foundation pre-doctoral award to support their dissertation work.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EPBI 8301. Clinical Research Methods in Public Health. 3 Credit Hours.
This course provides an introduction to the core topics in clinical research. Beginning with practical issues in starting and advancing in a career in clinical investigation, the course proceeds to cover diagnosis and treatment studies, research on prognostic and casual risk factors, special types of study design and analyses, principles of measurement in human subjects, studies using secondary databases, and outcomes research. This course will be an elective class for all students enrolled in the Master of Science in Epidemiology, Clinical Research and Translational Medicine, as well as the Doctor of Philosophy in Epidemiology programs. This graduate level course is principally aimed at health care professionals, not limited to the field of public health, usually with graduate courses relevant to their clinical discipline, who desire advanced knowledge and skills in evaluating, designing and implementing clinical research studies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
EPBI 5002|Minimum Grade of B-|May not be taken concurrently.
EPBI 8302. Behavioral Measurement. 3 Credit Hours.
This course will cover the classical and modern test theories and their applications to solve measurement problems in practice. This course will educate students on measurement concepts including test standardization, validity, reliability, operational definitions, scaling and latent variables in social and behavioral sciences. Issues surrounding validity and reliability of measures will be discussed in detail. Students will be given an opportunity to critically evaluate existing measures and to propose how a new measure can be developed and evaluated.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
EPBI 5002|Minimum Grade of B-|May not be taken concurrently
OR EPBI 8012|Minimum Grade of B-|May not be taken concurrently.

EPBI 8307. Systematic Reviews. 3 Credit Hours.
Systematic reviews are essential tools for health care workers, researchers, consumers, and policymakers who need to keep abreast of the accumulation of knowledge within their field. Systematic reviews provide more objective evaluation of the evidence than has been possible with traditional narrative reviews, and so can help resolve uncertainty and point toward promising future directions in research and practice. When appropriate, meta-analyses can help increase the precision of estimates regarding treatment effects and way to improve treatments. For example, identification of subgroups of individuals most (or least) likely to benefit from treatment can generate new questions to be addressed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EPBI 9083. Readings and Conference in Public Health. 1 to 3 Credit Hour.
This is an advanced tutorial in public health with an appropriate faculty member. Note: Registration requires a written contract with the supervising faculty member and approval of the student's advisor and of the Director of Graduate Programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EPBI 9187. Biostat Cnslt Practicum. 3 Credit Hours.
The objective of this course is to prepare students to collaborate effectively as biostatistics support consultants in the health professions. The emphasis will be to refresh statistical techniques and develop communication and problem solving skills. This course is designed for graduate students in public health who can use well-validated commercial statistical software, such as SAS, for the analyses of data from observational and/or interventional research studies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EPBI 9189. MPH Capstone Seminar. 3 Credit Hours.
This seminar is required of M.P.H. students during final year of study. The seminar includes integration of coursework and practice skills to develop a fieldwork project or internship in a public health agency.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

EPBI 9289. MPH Fieldwork I. 3 Credit Hours.
This course entails a fieldwork project or internship in a public health agency. It includes seminars, oral and written reports of progress, and joint supervision by a preceptor and faculty member.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

EPBI 9389. MPH Fieldwork II. 3 Credit Hours.
This course is an evaluation of the fieldwork project or internship using a full range of research methodologies. Data are collected, analyzed, and reported in a comprehensive final report. Oral and/or poster presentations are presented to public health organizations. The course includes a final oral defense of the project or internship.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
EPBI 9991. Independent Project in Environmental Health. 1 to 3 Credit Hour.
Under the direction of an appropriate graduate faculty member, students tie together their coursework in a project that poses a problem, gathers data to
help analyze the problem, and provides a solution. Note: Enrollment must be approved by the student's advisor and the Director of Graduate Programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

EPBI 9994. Preliminary Examinations. 1 Credit Hour.
This course supports preparation for taking the preliminary examinations in the Health Policy and Social and Behavioral Sciences Ph.D. programs. To
enroll, students must have completed all required coursework for the Ph.D. and obtain the approval of the Ph.D. Program Director. Students must be
enrolled to take the required preliminary examinations.

Department Restrictions: Must be enrolled in one of the following Departments: CPH:Epidemiology/Biostatistics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Philosophy.
Repeatability: This course may be repeated for additional credit.

EPBI 9996. Masters Res in Pub Hlth. 3 Credit Hours.
This course is limited to students who have chosen to fulfill the master's degree by writing a thesis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

EPBI 9998. Dissertation Proposal Research. 1 to 2 Credit Hour.
This course supports preparation of the dissertation proposal. The course is required for students who have passed the preliminary examinations for
their PhD program and who have not yet defended the dissertation proposal.

Department Restrictions: Must be enrolled in one of the following Departments: CPH:Epidemiology/Biostatistics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Philosophy.
Repeatability: This course may be repeated for additional credit.

Pre-requisites:
EPBI 9994|Minimum Grade of P|May not be taken concurrently.

EPBI 9999. Dissertation Research. 1 to 6 Credit Hour.
This course is limited to Ph.D. candidates who have completed and defended a dissertation proposal that is filed with the Graduate School by the last
day to add a course in the semester. Continuous registration in 9999 fall and spring is required until the dissertation is successfully defended.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.
Repeatability: This course may be repeated for additional credit.

Film and Media Arts (FMA)

Courses
FMA 5241. Cinematography Workshop. 4 Credit Hours.
The art, theory, and technology of film production with special attention paid to location lighting, location sound, cinematic composition, and film
structure. This is a dual level course, intended for both the experienced filmmaker and the media-aware but inexperienced graduate student ready for
intensive, accelerated study in the design and solution of cinematographic problems. Note: This course is required for the fall semester of the first year of
the MFA program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
FMA 5242. Videography. 4 Credit Hours.
Lectures, demonstrations and practical exercises in the art, theory, and technology of video and electronic media production. Note: This course is recommended for the spring semester of the first year of the MFA program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FMA 5243. Audio Production and Aesthetics. 4 Credit Hours.
A production workshop on audio as a form of aesthetic expression. Students will explore theoretical concepts as they use digital audio recording and editing systems to complete projects. Lectures, demonstrations, hands-on instruction, exercises, critiques and discussions.

Department Restrictions: Must be enrolled in one of the following Departments: CA:Film & Media Arts.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FMA 5244. Lighting for Film & Video. 4 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FMA 5248. Introduction to 3D Modeling. 4 Credit Hours.
This course introduces the concepts and techniques of three-dimensional digital graphics, using Lightwave3D software. The first half of the semester introduces a broad palette of techniques and formal ideas, while the second half is spent on a major project of your own design. Previous experience with graphics or animation software is not required. The course offers a unique skill set and formal perspective.

Department Restrictions: Must be enrolled in one of the following Departments: CA:Film & Media Arts.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Film and Media Arts.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FMA 5341. Scene Analysis for Writers and Directors. 4 Credit Hours.
Analysis and exercises dealing with the conventional language of mainstream narrative film, including how this language, traditionally presented as the only way to organize narrative films, actually serves to circumscribe the kinds of stories that may be told.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FMA 5361. Writing for Media I. 4 Credit Hours.
A seminar and workshop exploring various approaches to screenwriting, including documentary treatment, experimental appropriation, performative conceptions, and narrative screenplays. Through weekly exercises and a final project, each student will begin to develop a personal integration of these approaches leading to a "voice" of his/her own. Note: This course is required for the fall semester of the first year of the MFA program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FMA 5362. Serial Writing. 4 Credit Hours.
This is a writing workshop focusing on dramatic serial writing in which students learn to work in close collaboration with other class members. In preparation for the class, students will be required to read or view several dramatic serials as well as read several pilot scripts. The class itself will hear "pitches" for a serial, select one story, and then begin to develop it.

Department Restrictions: Must be enrolled in one of the following Departments: CA:Film & Media Arts.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FMA 5361|Minimum Grade of B-|May not be taken concurrently.
FMA 5440. Topics in Production. 4 Credit Hours.
A workshop in film, video, audio, or emerging new technologies. The course will address a particular production issue (an aspect of technology or an aesthetic approach) each time it is offered, such as color correction, 3-D computer animation, special effects, digital audio applications, and multimedia.

**Department Restrictions:** Must be enrolled in one of the following Departments: CA:Film & Media Arts.
**Field of Study Restrictions:** Must be enrolled in one of the following Fields of study: Film and Media Arts.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

FMA 5451. Animation Workshop. 4 Credit Hours.
A creative workshop exploring the concepts, aesthetics, and techniques of independent animation in a number of media from cards and cels to digital design and manipulation. Note: Offered summer only.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

FMA 5452. Digital Animation, Compositing and Modeling. 4 Credit Hours.
Animation, image compositing and object modeling have facilitated the crossover between animation and photographic imaging, mingling the fictive and the realistic image in digital film and videomaking. This workshop explores the techniques and effects of processing and layering the moving image within film/video language and within non-linear structures. Primary focus is on 2D animation and compositing using Adobe AfterEffects with other software packages introduced as time permits.

**Department Restrictions:** Must be enrolled in one of the following Departments: CA:Film & Media Arts.
**Field of Study Restrictions:** Must be enrolled in one of the following Fields of study: Film and Media Arts.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

FMA 5468. Art-Culture-Technology Seminar. 4 Credit Hours.
This seminar introduces a broad array of theories and critical perspectives on cinematic arts and alternative media. The course explores how the emergence of differing media technologies such as cinema, video and computing have shaped paradigms of cultural and political organization as well as personal, physical and cognitive self-understanding. Topics include spectatorship and viewer participation, the gaze and identity construction/deconstruction, transmedia documentary, rhizomatic narrative, multiple screen installations, video art, sound art, interactivity, spatiality and new urbanisms, networked and geolocated media, net art and hacktivism, user-generated media, virtual worlds, and game theory. The course explores interdisciplinary approaches to scholarly and creative inquiry, with research and readings traversing fields of the arts, humanities and sciences.

**Department Restrictions:** Must be enrolled in one of the following Departments: CA:Film & Media Arts.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**
FMA 5674|Minimum Grade of B-|May not be taken concurrently.

FMA 5473. Moving Camera Workshop. 4 Credit Hours.
Moving Camera Workshop is a graduate level workshop course that explores the art and practice of moving camera media production. The course covers the range of techniques including hand-held, dolly, jib, virtual/motion sensors and Steadicam operation. Class time will be spent on group discussions/exercises, lectures/screenings, lab instruction and critiquing work. Through a series of production projects, students will work through the aesthetics of moving camera and gain the technical and physical expertise necessary for successful projects. This course will also explore the theory and history of camera movement as well as blocking and directing techniques. Locative and mobile media projects extend the work outside the classroom. Research on new camera movement technologies is used to move toward innovative student media projects.

**Department Restrictions:** Must be enrolled in one of the following Departments: CA:Film & Media Arts.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**
FMA 5242|Minimum Grade of B|May not be taken concurrently.
FMA 5553. Color Correction. 4 Credit Hours.
Advanced Color Correction is a graduate level workshop that explores the aesthetic considerations and technical aspects of color in modern postproduction and cinematography. Color has a subconscious influence on emotion in storytelling. With the advent of modern digital cinema, every film and television production undergoes some level of color grading. Cinematographers must understand the process to maintain creative control of the images they produce. Editors must understand the process to perform basic color correction on low budget productions. This class is a combination of lecture and workshop with each student striving to efficiently navigate the art and practice of color correction.

Department Restrictions: Must be enrolled in one of the following Departments: CA:Film & Media Arts.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FMA 5241|Minimum Grade of B|May not be taken concurrently
OR FMA 5242|Minimum Grade of B|May not be taken concurrently.

FMA 5670. M.F.A. Colloquium. 1 Credit Hour.
Wide variety of discussions, screenings, and lectures from guest image makers, exploring and integrating a range of theoretical, conceptual, and pedagogical aspects of film and video production. This course must be taken a second time for fulfillment of the MFA degree in FMA. Note: This course is required for the fall semester of the first year of the MFA program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

FMA 5671. Film History and Theory. 3 Credit Hours.
This course surveys major filmmakers who have theorized their practice in journals, workbooks, lectures, interviews, essays, etc., including theorist-practitioners like Sergei Eisenstein, Jean-Luc Godard, Atom Egoyan and Jane Campion. Historical and cultural contexts of theorist-practitioners and related critics are considered in relation to the conditions of experimentation and innovation in significant genres and aesthetic movements.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FMA 5672. History of Documentary Film. 4 Credit Hours.
An international, historical survey of the factual film, including creative documentary, anthropological film, television news film, direct cinema, and cinema verité.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FMA 5673. Time-Image Arts/Cinema Praxis. 4 Credit Hours.
This screenings-oriented seminar examines how writers such as Deleuze, Taussig, and Robbe-Grillet and media makers such as Antonioni, Frampton, and Viola expand our ideas about time-based images and the production of space in a globalizing technological era. Students respond to readings and screenings through short biweekly papers that launch seminar discussions. Students conclude the course with a paper (M.A./Ph.D. students) or project (M.F.A. students) and a cross-disciplinary critique of each other's works. Note: Cross-listed with Philosophy and Art History.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FMA 5674. Media Arts Thry-Practice. 4 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FMA 5676. Anthropological Film/Media. 3 Credit Hours.
Anthropological perspectives on media studies in terms of both cultural organization and anthropological research tools; includes anthropological and communication theory, history of ethnography, and research methods with special emphasis on visual recording modes.

Department Restrictions: Must be enrolled in one of the following Departments: CA:Film & Media Arts.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Film and Media Arts.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
FMA 5680. Topics in Film Study. 4 Credit Hours.
Lectures and screenings on a special topic arranged each semester. Topics may include: Advanced Film Theory, Third Cinema, Soundtracks, Exile Cinema, The Idea of Art Cinema, Hollywood Cinematographers, Hybrid Cinema, Gender and Sexuality. Please consult with the instructor.

Department Restrictions: Must be enrolled in one of the following Departments: CA:Film & Media Arts.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Film and Media Arts.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

FMA 5770. Topics in Producing. 3 Credit Hours.
A workshop in film and media art producing. The course will address a particular producing issue each time it is offered, such as budgeting, scheduling, project development, or entertainment law.

Department Restrictions: Must be enrolled in one of the following Departments: CA:Film & Media Arts.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

FMA 5771. Producing. 4 Credit Hours.
An overview of the processes of financing, managing, promoting, and distributing a documentary, fiction, or experimental production. Emphasis is on projects produced independently, outside the commercial mainstream, and without institutional sponsorship or governance. Students will produce a comprehensive proposal for a viable film or videotape project.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FMA 5772. Fundraising for Independent Media. 3 Credit Hours.
This course is a workshop class where students must come prepared with a project around which they will create a fundraising campaign. During the course of the semester students will be exposed to information on grant writing, non-profit and for-profit media entities and the legalities of media producing. At the conclusion of the course, students will have a full funding proposal ready for dissemination to various funding sources.

Department Restrictions: Must be enrolled in one of the following Departments: CA:Film & Media Arts.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FMA 5773. Entertainment Industry Perspectives. 4 Credit Hours.
This course explores career paths and current trends in the entertainment industry through weekly guest lecturers who are working professionals in a variety of related fields. Students also study and learn professional skills and industry conventions relevant to their future careers. Writing assignments will include critical responses to trade journal articles about the student’s chosen field as well as a series of student-conducted case studies of and interviews with practitioners in the student’s area of focus. NOTE: Student must be a graduate participant in the FMA LA-Away program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FMA 8240. Special Problems in Film and Media Arts. 1 to 4 Credit Hour.
Special seminars typically taught by distinguished visiting faculty. Inquire at departmental offices for details, since these seminars often are scheduled on short notice.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

FMA 8241. Advanced Cinematography. 4 Credit Hours.
Advanced theory and practice in the making of films with personal vision and crewing each other's productions in Super 16mm, 35mm or High Definition 24P digital video, along with technical and aesthetic exercises deconstructing cinematographic/videographic moviemaking.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
FMA 8242. Experimental Media Wksp. 4 Credit Hours.
An advanced workshop to develop projects in experimental, documentary, or narrative forms using portable video, TV studio, and computerized image and editing facilities.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

FMA 8243. Film Sound. 4 Credit Hours.
A production workshop on audio recording, editing and mixing of dialogue, foley, effects and music for film and electronic media. Lectures, demonstrations, hands-on instruction, exercises, critiques and discussions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FMA 8244. Experimental Methods. 4 Credit Hours.
An introduction to formal concepts and experimental methods of film production with a workshop emphasis on optical printing, hand painting on film, manipulating the film image and exploring the material nature of the film medium. The course includes readings in the theories and history of experimental film and media arts production.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FMA 8245. Documentary Workshop. 4 Credit Hours.
Design, pre-production planning, production, and subsequent evaluation of individual documentary projects.

Department Restrictions: Must be enrolled in one of the following Departments: CA:Film & Media Arts.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FMA 8246. Advanced Documentary/Fiction Workshop. 4 Credit Hours.
Designing and executing individual documentaries, dramatic projects, or works that intermix the strategies of documentary and fiction while dealing with socially significant material. Each project will involve one month of planning and scripting, one month of field production in film or video, and a final month of editing and postproduction. Lectures, demonstrations, critiques, and crew assignments on each other's projects will accompany the intensive fieldwork.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

FMA 8340. Topics in Production. 1 to 4 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

FMA 8341. Screen Directing Theory and Practice. 4 Credit Hours.
Theories of directing, dramatic form, and acting are examined through lectures, demonstrations, readings, and applied exercises to establish a theoretical and practical foundation in film and television directing.

Department Restrictions: Must be enrolled in one of the following Departments: CA:Film & Media Arts.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FMA 8361. Writing for Media II. 4 Credit Hours.
The preparation of a scenario and complete television or motion picture script.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
FMA 8362. Joint Writing Workshop 1. 4 Credit Hours.
This is an advanced workshop course designed for students in the Film and Media Arts MFA in Screenwriting. It will be offered in conjunction with a similar Writing Workshop offered by the Theater MFA in Playwriting. Students will complete the first draft of a feature screenplay or serial bible.

Department Restrictions: Must be enrolled in one of the following Departments: CA:Film & Media Arts.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FMA 8361|Minimum Grade of B-|May not be taken concurrently.

FMA 8363. Joint Writing Workshop 2. 4 Credit Hours.
This is an advanced workshop course designed for students in the Film and Media Arts MFA in Screenwriting. It will be offered in conjunction with a similar Writing Workshop offered by the Theater MFA in Playwriting. Students will polish and complete the final draft of a feature screenplay or serial bible.

Department Restrictions: Must be enrolled in one of the following Departments: CA:Film & Media Arts.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FMA 8362|Minimum Grade of B-|May not be taken concurrently.

FMA 8450. Topics in Media. 1 to 4 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

FMA 8451. Digital Animation. 4 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FMA 8452. New Technology Laboratory. 4 Credit Hours.
Exploration, study, design, production, and implementation of hypermedia projects including interactive and computer controlled video, computer graphics, digital sound, videodisc, virtual reality, and other emerging technologies. Interdisciplinary collaborations will be encouraged between FMA, Computer Sciences, Engineering, Architecture, Art, and Music.

Department Restrictions: Must be enrolled in one of the following Departments: CA:Film & Media Arts.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FMA 8461. Interactive Narrative. 4 Credit Hours.
A creative course within a critical frame in which students make and study interactive narratives; textual, audio and graphics/video based stories that incorporate explicit user choice. Weekly exercises and readings, followed by a substantial final project.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FMA 8462. Documentary Arts and Visual Research. 3 to 4 Credit Hours.
Students examine theories, methods and interdisciplinary approaches to nonfiction representation and depiction in order to develop documentary research and/or documentary projects. Students are expected to complete highly developed papers and/or documentary projects that are directly related to their thesis topics, methods, and goals. The course is open to graduate students from across the university with permission of the instructor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
FMA 8551. Digital Post-Production. 4 Credit Hours.
Advanced tools and concepts of digital non-linear editing of film and video with emphasis on fine-cut preparation, file management, ProTools, foley, looping, multi-track mixing, compositing, titling, EDL generation, and film matchback.

Department Restrictions: Must be enrolled in one of the following Departments: CA:Film & Media Arts.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FMA 8670. Topics in Media Studies. 1 to 4 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

FMA 8673. Historical Film Research. 4 Credit Hours.
Major trends in theatrical film history and the methods and issues in the writing of film history.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FMA 8674. Critical Methods Seminar. 3 Credit Hours.
Methods and approaches to issues of media history, theory, and critical analysis are covered through lectures, discussions, screenings, and directed research as practical preparation for comprehensive examinations. Note: This course is required of fourth semester MFA candidates.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FMA 8675. Seminar: International Film. 4 Credit Hours.
A critical and historical examination of the films of a particular country or world region. Topics vary per semester. May be repeated (as long as the specific topic is not duplicated).

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FMA 8680. Advanced Topics in Media Arts Studies. 4 Credit Hours.
Advanced Topics in Media Arts Studies is a variable-content topics history/theory course in such media art topics as new technologies, sound, interactive video, mobile media, visual ethnography and other areas of interdisciplinary media art. This is a media arts studies course for graduate students.

Department Restrictions: Must be enrolled in one of the following Departments: CA:Film & Media Arts.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Film and Media Arts.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

FMA 8771. Exhibition/Distribution. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FMA 8870. U Penn Critical Studies. 4 Credit Hours.
Recipient of the Temple (FMA)-UPenn Exchange Award that is given to one student per year to engage in studies in the University of Pennsylvania Program in Cinema Studies. The exchange has been officially approved by the Temple University and the University of Pennsylvania.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

FMA 8985. Teaching in Higher Education, Arts. 3 Credit Hours.
This course focuses on the research on how people learn and best teaching practices, with the aim of preparing students for effective higher education teaching in the arts.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
FMA 9085. Professional Field Experience. 1 to 4 Credit Hour.
Field work on an outside professional production or media presentation with a position of creative, curatorial or managerial responsibility. May be repeated. Up to four credits may count toward the MFA degree.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

FMA 9086. Study-Away Internship. 1 to 4 Credit Hour.
Students apply for and perform internships in wide variety of entertainment industry fields. Students also study opportunities available to emerging professionals in their areas of specialty. Students submit weekly journals related to their internship experiences and assigned readings, as well as a final written reflection on their field experience, personal growth, and knowledge gained. NOTE: Internship placements subject to student qualifications and availability of openings. Must be admitted into Film and Media Arts LA-Away Program. Contact FMA’s internship director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

FMA 9245. Thesis Development Workshop. 4 Credit Hours.
This writing intensive workshop is designed to aid in the conceptualization, development and preproduction phases of the final thesis production. Through a diverse range of creative exercises, writing assignments and visiting lecturers, students will complete their thesis proposal with clear plans for executing their thesis film.

Department Restrictions: Must be enrolled in one of the following Departments: CA: Film & Media Arts.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
FMA 8674|Minimum Grade of B-|May not be taken concurrently.

FMA 9246. Thesis Production Workshop. 4 Credit Hours.
This production workshop is designed to support the production of final thesis projects. Through a diverse range of workshops and visiting lecturers, the course is designed to support the production phases of final thesis projects with the goal of completing production by the course’s end.

Department Restrictions: Must be enrolled in one of the following Departments: CA: Film & Media Arts.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
FMA 8674|Minimum Grade of B-|May not be taken concurrently.

FMA 9282. Directed Projects. 1 to 4 Credit Hour.
Individual production projects proposed by advanced students under the tutorial supervision of a faculty member.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

FMA 9346. Methodologies and Praxis. 4 Credit Hours.
This seminar offers core training in doctoral research methods across film and media arts and related fields. Drawing upon scholarly traditions in visual research in the humanities and social sciences, the course is designed to help students gain deep understanding of differing research approaches to develop research methods best suited to their dissertation projects. Student learn to systematically develop their research projects, combine research from archival, data and field sources, and integrate quantitative and qualitative research materials into their arguments. Students learn to develop annotated bibliographies, contrast research approaches to their potential thesis questions, and position their work for differing audiences. In developing strategies of implementation, students are instructed in IRB and other research protocols and engage readings on ethics and academic standards.

Department Restrictions: Must be enrolled in one of the following Departments: CA: Film & Media Arts.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Philosophy.

Repeatability: This course may not be repeated for additional credits.
FMA 9683. Directed Readings. 1 to 4 Credit Hour.
Individual research/theory projects proposed by advanced students under the tutorial supervision of a faculty member.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

FMA 9994. Doctoral Comprehensive Exam Study. 1 to 6 Credit Hour.
Open only to PhD candidates in Film and Media Arts for preparation for their doctoral comprehensive examination. A maximum of six credit hours will be counted toward the degree.

Department Restrictions: Must be enrolled in one of the following Departments: CA:Film & Media Arts.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Documentary Arts + Visual Res.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

FMA 9995. M.F.A. Project. 1 to 4 Credit Hour.
Open only to MFA candidates in Film and Media Arts for their final project. May be repeated for credit during all semesters the final project is in progress, although only a maximum of six hours will be counted toward the degree.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

FMA 9998. Doctoral Dissertation Proposal. 1 to 3 Credit Hour.
Open only to PhD candidates in Film and Media Arts for their doctoral thesis proposal research, writing and presentation. A maximum of six credit hours will be counted toward the degree.

Department Restrictions: Must be enrolled in one of the following Departments: CA:Film & Media Arts.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Documentary Arts + Visual Res.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Finance (FIN)

Courses

FIN 5001. Financial Analysis and Strategy. 3 Credit Hours.
This course develops the conceptual framework that is used in analyzing the financial management problems of business enterprises. Students cover concepts such as the time value of money, the cost of capital, the relationship between risk and return, the valuation of assets such as stocks and bonds, and various corporate finance issues, including capital budgeting, capital structure, corporate financing, and dividend policy.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ACCT 5001|Minimum Grade of B-|May not be taken concurrently
OR ACCT 5003|Minimum Grade of B-|May not be taken concurrently
OR (ACCT 5301|Minimum Grade of B-|May not be taken concurrently
AND ACCT 5302|Minimum Grade of B-|May not be taken concurrently
OR (ACCT 5401|Minimum Grade of B-|May not be taken concurrently
AND ACCT 5402|Minimum Grade of B-|May not be taken concurrently)
AND (STAT 5001|Minimum Grade of B-|May not be taken concurrently
OR (MIS 5401|Minimum Grade of B-|May not be taken concurrently
AND STAT 5401|Minimum Grade of B-|May not be taken concurrently)
OR (MIS 5301|Minimum Grade of B-|May not be taken concurrently
AND STAT 5301|Minimum Grade of B-|May not be taken concurrently)
FIN 5101. Fixed Income Analysis. 3 Credit Hours.
This course provides a theoretical and practical analysis of the spot markets for money, bonds, and other fixed income instruments. Topics include money market instruments, duration and convexity of bonds, yields, default risk, the term structure of interest rates, interest rate volatility, financial risk management of bond portfolios, and securitization. Students are assigned a project that involves financial decision-making and real data analysis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FIN 5001|Minimum Grade of B-|May not be taken concurrently
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently)
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently)

FIN 5102. Management of Financial Institutions. 3 Credit Hours.
The objectives of the course are to examine the financial services industry and to apply the fundamental concepts of financial risk management in understanding the decision-making process of this industry. First, the general environment, structure, and recent trends in banking are examined to provide a suitable background. Second, the nature and the industry structure of non-bank financial services firms, such as mutual funds and investment banking firms, are studied. Third, the sources of risk, measurement of risk, and risk management techniques and issues are studied. Risk categories considered include interest rates, credit, off-balance-sheet, operational, and liquidity.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FIN 5001|Minimum Grade of B-|May not be taken concurrently
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently)
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently)

FIN 5103. Financial Risk Management. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FIN 5001|Minimum Grade of B-|May not be taken concurrently
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently)
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently)

FIN 5104. Advanced Corporate Finance. 3 Credit Hours.
This course builds on the core M.B.A. finance course to develop the critical skills and the analytical tools necessary to apply financial theory to real world situations. The theme of this course is corporate valuation and how corporate decision-making impacts firm value. Four broad topics are covered in this course: cost-of-capital estimation and cash flow estimation; capital structure and dividend policies from the perspective of their impact on firm value; the use of real-option techniques in valuing corporate assets; and mergers and acquisitions, including bidding, takeover defenses, and golden parachutes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FIN 5001|Minimum Grade of B-|May not be taken concurrently
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently)
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently)
FIN 5105. Advanced Option Theory. 3 Credit Hours.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**
FIN 5001|Minimum Grade of B-|May not be taken concurrently
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently)
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently)

FIN 5106. Interest Rate Options. 3 Credit Hours.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**
FIN 5001|Minimum Grade of B-|May not be taken concurrently
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently)
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently)

FIN 5108. Derivatives. 3 Credit Hours.
This course provides students with a basic knowledge of the futures, options, and other derivative markets, their market structure, theoretical foundation, and the derivative strategies of both speculators and hedgers.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**
(FIN 5001|Minimum Grade of B-|May not be taken concurrently
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently)
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently))
AND (FIN 5109|Minimum Grade of B-|May not be taken concurrently)

FIN 5109. Investments. 3 Credit Hours.
This course provides an understanding of the theory of investments, and introduces the tools and techniques used in investment management. Topics include portfolio theory; equilibrium models of security prices, including the capital asset pricing model and arbitrage pricing theory; empirical behavior of security prices; market efficiency; performance evaluation; and fixed-income markets.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**
FIN 5001|Minimum Grade of B-|May not be taken concurrently
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently)
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently)
FIN 5111. Mergers and Acquisitions. 3 Credit Hours.
This course is a rigorous examination of the integration of various business disciplines, especially finance, in the value creation process. The primary focus is on the strategic and financial management decisions of the buyer and seller in an M&A transaction. Classes include lectures, facilitated discussions, student presentations of current events, and case studies. A comprehensive term-long case study is analyzed by groups and leads to a mock board presentation during the last class session. Although these are not strict Prerequisites, students entering the class benefit from prior coursework in corporate finance and accounting; a broad understanding of basic and intermediate accounting principles is assumed. In addition, familiarity with such concepts as capital budgeting, capital structure, portfolio theory, and securities/investments is useful. Otherwise, students should request the permission of the instructor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FIN 5001: Minimum Grade of B-|May not be taken concurrently
OR (FIN 5401: Minimum Grade of B-|May not be taken concurrently
AND FIN 5402: Minimum Grade of B-|May not be taken concurrently)
OR (FIN 5301: Minimum Grade of B-|May not be taken concurrently
AND FIN 5302: Minimum Grade of B-|May not be taken concurrently)

FIN 5112. Capital Struct Business. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FIN 5113. Financial Analysis & Planning. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FIN 5114. Financial Markets and Institutions. 3 Credit Hours.
This course is a survey course of financial instruments, markets and institutions. Topics covered include time value of money, interest rates and yield curves, financial markets efficiency, fundamentals of financial institutions, depository institutions, and interest rate risk management. While the primary focus is on U.S. markets, the course also considers global financial markets.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FIN 5115. Financial Modeling for Investments and Corporate Finance. 3 Credit Hours.
This course will develop the modeling skills that are used in the investments and investment planning process. Spreadsheet Models for the valuation and analysis of investment alternatives will be developed. These will include portfolio modeling to obtain the optimal asset mix to meet investor's goals, valuation models for both equity and fixed income securities and models for alternative investment such as real estate, commodities, options and other investments. Applications of these models will be used through the case method. Solutions to real world problems that investors face will be addressed in these analyses. In addition, alternate models for determining the expected returns on investment will be addressed. This course will develop the modeling skills that are used in the process of corporate decision-making. It will include the development of models for financial statement analysis and the evaluation of investment decisions including the capital budgeting, cost of capital and company valuation. Application models of NPV, IRR, Payback Period, MIRR and other methods of establishing the cash flows and the relative value of projects as faced by corporate decision makers will be developed. These models will be utilized in real world applications through the case method to address the steps needed to make optimal business decisions. In addition, how to establish the appropriate return on a corporate investment will be modeled and addressed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FIN 5001: Minimum Grade of B-|May not be taken concurrently
OR (FIN 5301: Minimum Grade of B-|May not be taken concurrently
AND FIN 5302: Minimum Grade of B-|May not be taken concurrently)
OR (FIN 5401: Minimum Grade of B-|May not be taken concurrently
AND FIN 5402: Minimum Grade of B-|May not be taken concurrently)
FIN 5116. Financial Modeling: Corporate. 1.5 Credit Hour.
This course will develop the modeling skills that are used in the process of corporate decision-making. It will include the development of models for financial statement analysis and the evaluation of investment decisions including the capital budgeting, cost of capital and company valuation. Application models of NPV, IRR, Payback Period, MIRR and other methods of establishing the cash flows and the relative value of projects as faced by corporate decision makers will be developed. These models will be utilized in real world applications through the case method to address the steps needed to make optimal business decisions. In addition, how to establish the appropriate return on a corporate investment will be modeled and addressed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FIN 5001|Minimum Grade of B|May not be taken concurrently
OR (FIN 5301|Minimum Grade of B|May not be taken concurrently
AND FIN 5302|Minimum Grade of B|May not be taken concurrently)
OR (FIN 5401|Minimum Grade of B|May not be taken concurrently
AND FIN 5402|Minimum Grade of B|May not be taken concurrently)

FIN 5117. Portfolio Analysis. 1.5 Credit Hour.
This course provides students with a comprehensive look at the theory and practice of the structure of investment portfolios. It will provide an extensive look at efficient diversification and asset allocation models. The course will develop an understanding of the basic structure of Modern Portfolio Theory (MPT) and the development of the efficient frontier and its implications for investors. The securities market line and the Capital Asset Pricing Model (CAPM) will be analyzed and other alternate models for the determination of required rates of return including multifactor model will be explored.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FIN 5001|Minimum Grade of B|May not be taken concurrently
OR (FIN 5301|Minimum Grade of B|May not be taken concurrently
AND FIN 5302|Minimum Grade of B|May not be taken concurrently)
OR (FIN 5401|Minimum Grade of B|May not be taken concurrently
AND FIN 5402|Minimum Grade of B|May not be taken concurrently)

FIN 5118. Project Analysis & Valuation. 1.5 Credit Hour.
Every project or asset has a value. The goal of this course is to strengthen and sharpen your skills in the valuing of firms' projects and investments. Topics include discounted cash flow techniques, multiple and comparable techniques, and estimating the appropriate costs of capital. Emphasis is on developing robust financial models for managerial decision-making.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FIN 5001|Minimum Grade of B|May not be taken concurrently
OR (FIN 5301|Minimum Grade of B|May not be taken concurrently
AND FIN 5302|Minimum Grade of B|May not be taken concurrently)
OR (FIN 5401|Minimum Grade of B|May not be taken concurrently
AND FIN 5402|Minimum Grade of B|May not be taken concurrently)
FIN 5119. Mergers, Acquisitions and Restructurings. 1.5 Credit Hour.
The course involves analysis of corporate restructuring strategies including mergers, acquisitions, hostile takeovers and the market for corporate control, financial re-capitalizations, leveraged buyouts, management buyouts, going-private decisions, fiduciary duties, and re-organization under bankruptcy. The course combines applied theoretical approach with the case study method through detailed analysis of domestic and global corporate deals. The course is designed so as to create an interface or link between the academic and the practitioner perspectives of various dimensions of corporate restructuring process.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FIN 5001 | Minimum Grade of B | May not be taken concurrently
OR (FIN 5301 | Minimum Grade of B | May not be taken concurrently
AND FIN 5302 | Minimum Grade of B | May not be taken concurrently)
OR (FIN 5401 | Minimum Grade of B | May not be taken concurrently
AND FIN 5402 | Minimum Grade of B | May not be taken concurrently)

FIN 5121. Continuous Time Finance. 3 Credit Hours.
The course deals with continuous time finance with financial engineering applications. The course examines derivatives valuation and risk management, integrating financial economic theory, financial calculus, and computational techniques.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FIN 5001 | Minimum Grade of B- | May not be taken concurrently
OR (FIN 5301 | Minimum Grade of B- | May not be taken concurrently
AND FIN 5402 | Minimum Grade of B- | May not be taken concurrently)
OR (FIN 5401 | Minimum Grade of B- | May not be taken concurrently
AND FIN 5302 | Minimum Grade of B- | May not be taken concurrently)

FIN 5122. Financial Markets and Institutions I. 1.5 Credit Hour.
The objective of the course is to study the environment, practices, and performance of firms operating in the financial services industry, with a particular focus on the banking enterprise. The changing nature of the financial services industry, sources and uses of financial institution funds and sources of risk will be examined. Models of risk measurement will also be discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FIN 5001 | Minimum Grade of B | May not be taken concurrently
OR (FIN 5301 | Minimum Grade of B | May not be taken concurrently
AND FIN 5302 | Minimum Grade of B | May not be taken concurrently)
OR (FIN 5401 | Minimum Grade of B | May not be taken concurrently
AND FIN 5402 | Minimum Grade of B | May not be taken concurrently)
FIN 5123. Financial Markets and Institutions II. 1.5 Credit Hour.
This course will focus on management of the major risks faced by financial institutions. These include: interest rate risk, credit risk, market risk, off balance sheet risk and funding and liquidity risk. Interest rate risk management techniques will include duration management as well as the use of options, futures, caps, floors, collars and swaps for hedging purposes. Credit risk management covers loan sales and securitization. Market risk management employs market models such as Risk Metrics and Back Simulation. Off balance sheet risk management examines non-traditional banking activities and sources of risk. Liquidity risk management will cover reserve management, asset management and liability management. Students will get some hands-on experience by collaborating on a short research project.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FIN 5001|Minimum Grade of B|May not be taken concurrently
OR (FIN 5301|Minimum Grade of B|May not be taken concurrently
AND FIN 5302|Minimum Grade of B|May not be taken concurrently)
OR (FIN 5401|Minimum Grade of B|May not be taken concurrently
AND FIN 5402|Minimum Grade of B|May not be taken concurrently)

FIN 5124. Working Capital Management Strategies. 1.5 Credit Hour.
The course emphasizes the set of decisions and problems that financial managers face in determining short-term financial policy, financial diagnostics, and operations of the company. Major topics include identifying working capital elements and their relationships to company operations, financial analysis, cash forecasting, banking relations, cash-flow systems, and short-term investment and borrowing strategies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FIN 5001|Minimum Grade of B|May not be taken concurrently
OR (FIN 5301|Minimum Grade of B|May not be taken concurrently
AND FIN 5302|Minimum Grade of B|May not be taken concurrently)
OR (FIN 5401|Minimum Grade of B|May not be taken concurrently
AND FIN 5402|Minimum Grade of B|May not be taken concurrently)

FIN 5125. Corporate Governance and Financing Decisions. 1.5 Credit Hour.
The course will cover corporate governance topics from the perspective of the firm’s capital providers. Specifically, the procedures and mechanisms that shareholders put in place to ensure that managers efficiently and optimally use the capital provided to the firm. Such topics will include boards of directors, managerial compensation, threat of termination, equity ownership structure, and the market for corporate control. The course may also cover managers’ and investors’ choices in financing the long-term investment decisions of the firm.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FIN 5001|Minimum Grade of B|May not be taken concurrently
OR (FIN 5301|Minimum Grade of B|May not be taken concurrently
AND FIN 5302|Minimum Grade of B|May not be taken concurrently)
OR (FIN 5401|Minimum Grade of B|May not be taken concurrently
AND FIN 5402|Minimum Grade of B|May not be taken concurrently)
FIN 5126. Financial Risk Management I: Application of Futures. 1.5 Credit Hour.
This course will be an introduction to the futures market and swap markets for the purpose of risk management. It will include the structure of the markets and the participants. The course will develop the theoretical relationship between the futures contract and spot market. It will concentrate on the use of futures and swaps to hedge a variety of risks including interest rate risk, portfolio risk, asset risk, currency risk and others. The development of hedging strategies will be the general focus in determining the best solution to reduce risk. Futures as an alternate investment will also be explored.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FIN 5001|Minimum Grade of B|May not be taken concurrently
OR (FIN 5301|Minimum Grade of B|May not be taken concurrently
AND FIN 5302|Minimum Grade of B|May not be taken concurrently)
OR (FIN 5401|Minimum Grade of B|May not be taken concurrently
AND FIN 5402|Minimum Grade of B|May not be taken concurrently)

FIN 5127. Financial Risk Management II: Application of Options. 1.5 Credit Hour.
This course will be an introduction to the options market for the purpose of understanding its role in investment and investment strategies. It will include the structure of the options market and the trading of options. Theoretical models will be examined and techniques for valuing options will be covered. In addition, the use of option strategies in risk management will be explored concentrating on models to use options as an enhancement to investment portfolios. Other topics will include option strategies, options on futures and other exotic options and their use in the investment process.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FIN 5001|Minimum Grade of B|May not be taken concurrently
OR (FIN 5301|Minimum Grade of B|May not be taken concurrently
AND FIN 5302|Minimum Grade of B|May not be taken concurrently)
OR (FIN 5401|Minimum Grade of B|May not be taken concurrently
AND FIN 5402|Minimum Grade of B|May not be taken concurrently)

FIN 5128. Global Finance I: Markets. 1.5 Credit Hour.
This course provides a detailed analysis of international financial markets. Topics include: foreign currency, international money markets, international banking, and international capital markets.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FIN 5001|Minimum Grade of B|May not be taken concurrently
OR (FIN 5301|Minimum Grade of B|May not be taken concurrently
AND FIN 5302|Minimum Grade of B|May not be taken concurrently)
OR (FIN 5401|Minimum Grade of B|May not be taken concurrently
AND FIN 5402|Minimum Grade of B|May not be taken concurrently)

FIN 5129. Global Finance II: Management. 1.5 Credit Hour.
The course provides a theoretical and practical analysis of the financing and investment decisions of multinational firms operating in international financial markets. Topics include: international asset valuation, international financing and investments, foreign exchange risk exposure, and country risk management.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
FIN 5132. Securities Analysis. 1.5 Credit Hour.
This course provides the student with an introduction to the analysis of securities. It will demonstrate the techniques for the analysis of financial statements to determine the capacity of the firm to generate returns to the stakeholders including equity and debt. It will develop models for the pricing of equity using the discounted free cash flow and relative valuation models. In addition, basic models for the pricing of debt instruments will be addressed. These models will then be used to value securities for the inclusion in investment portfolio looking to create alpha by determining if the securities are under- or over-valued.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FIN 5001|Minimum Grade of B|May not be taken concurrently
OR (FIN 5301|Minimum Grade of B|May not be taken concurrently
AND FIN 5302|Minimum Grade of B|May not be taken concurrently
OR (FIN 5401|Minimum Grade of B|May not be taken concurrently
AND FIN 5402|Minimum Grade of B|May not be taken concurrently

FIN 5137. Int’l Fin Mkt & Corp Fin. 5 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FIN 5156. Private Equity. 3 Credit Hours.
This course provides a broad coverage of the private equity market. The course is divided into two distinct segments. The first section addresses the structure of PE funds, evaluation of fund performance, and identification, structuring, and valuation of individual venture capital opportunities. The last segment focuses on leveraged finance and exit. This course is largely case-based, runs at a fast pace, and offers a unique opportunity to interact with private equity industry professionals.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FIN 5001|Minimum Grade of B-|May not be taken concurrently
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently

FIN 5170. Special Topics. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
FIN 5001|Minimum Grade of B-|May not be taken concurrently
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently

FIN 5180. Special Topics Finance. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
FIN 5001|Minimum Grade of B-|May not be taken concurrently
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently
FIN 5182. Independent Study. 1 to 6 Credit Hour.
Special study is undertaken in a particular aspect of finance under the direct supervision of an appropriate graduate faculty member. No more than six semester hours of independent study may be counted toward degree requirements.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

FIN 5190. Special Topics - Finance. 1 to 6 Credit Hour.
Special Topics - Finance

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**Pre-requisites:**
FIN 5001|Minimum Grade of B-|May not be taken concurrently
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently)
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently)

FIN 5282. Independent Study. 1 to 3 Credit Hour.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**Pre-requisites:**
FIN 5001|Minimum Grade of B-|May not be taken concurrently
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently)
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently)

FIN 5301. Understanding the Finance of Business. 1.5 Credit Hour.
This course introduces students to basic financial concepts and techniques and shows students how these concepts can be applied to financial decisions that a firm must make. Exercises include live examples as well as cases.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Co-requisites:** ACCT 5301.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**
(STAT 5301|Minimum Grade of B-|May be taken concurrently)
AND (MIS 5301|Minimum Grade of B-|May not be taken concurrently)

FIN 5302. Valuation for Business Decisions Opportunities. 1.5 Credit Hour.
This course builds on and extends the valuation concepts taught in the basic finance class. We will review the financial tools and techniques introduced in the previous course as well as learn advanced techniques for making financial decisions. The course will be taught primarily using cases. Case analysis help hone decision making abilities by forcing thought about how financial theory can be applied in real-world situations that confront the firm.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Co-requisites:** ACCT 5302.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**
FIN 5301|Minimum Grade of B-|May not be taken concurrently.
FIN 5387. Practicum in Financial Analysis and Strategy. 1.5 Credit Hour.
The Practicum in Financial Analysis and Strategy provides students hands-on experience in financial statement evaluation and interpretation, valuing projects and companies, and understanding and making business decisions in the corporate environment. In the Practicum, you will become proficient at Excel Modeling; learn about the various databases that corporate managers access; and most importantly, make recommendations or decisions based on the analysis of data. The course is hands-on, i.e., you work with financial data and financial models in an empirical and case setting.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Co-requisites: FIN 5001.

Repeatability: This course may not be repeated for additional credits.

FIN 5401. Understanding the Finance of Business. 1.5 Credit Hour.
This course introduces students to basic financial concepts and techniques and shows students how these concepts can be applied to financial decisions that a firm must make. Exercises include live examples as well as cases.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ACCT 5402|Minimum Grade of B-|May not be taken concurrently)
AND (STAT 5401|Minimum Grade of B-|May not be taken concurrently)
OR STAT 5001|Minimum Grade of B-|May not be taken concurrently
OR STAT 5301|Minimum Grade of B-|May not be taken concurrently
AND (MIS 5401|Minimum Grade of B-|May not be taken concurrently)
OR MIS 5301|Minimum Grade of B-|May not be taken concurrently

FIN 5402. Valuation for Business Decisions Opportunities. 1.5 Credit Hour.
This course builds on and extends the valuation concepts taught in the basic finance class. We will review the financial tools and techniques introduced in the previous course as well as learn advanced techniques for making financial decisions. The course will be taught primarily using cases. Case analysis help hone decision making abilities by forcing thought about how financial theory can be applied in real-world situations that confront the firm.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FIN 5401|Minimum Grade of B-|May be taken concurrently
OR FIN 5301|Minimum Grade of B-|May be taken concurrently.

FIN 5501. International Financial Markets. 3 Credit Hours.
This covers theory, operation, and structure of international financial markets and institutions. International monetary systems, foreign exchange theory, international banking and money markets, and international monetary policy are covered.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FIN 5001|Minimum Grade of B-|May not be taken concurrently
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently)
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently)
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently)
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently)
FIN 5502. International Financial Management. 3 Credit Hours.
This course examines how the access and exposure to different currency, country, and market environments can affect the financial and investment decisions of the firm. The course extends closed-economy financial management to the international market environment. Major topics include the relationship between foreign exchange and other financial variables; measurement and management of the exchange risk exposure of the firm; international investment decisions by firms and investors; and financing the global operations of firms.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FIN 5001|Minimum Grade of B-|May not be taken concurrently
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently

FIN 5601. Financial Technology. .5 or 1 Credit Hours.
This course teaches specialized financial software, financial market databases and quantitative financial tools. Financial Technology may be repeated up to one credit hour.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may be repeated for a total of 1 credit.

FIN 5602. Corporate Finance. 1 Credit Hour.
This course reviews economic principles governing financial markets and corporate management and develops financial analysis skills. Topics include capital budgeting and cost of capital.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

FIN 5603. Financial Accounting. 1 Credit Hour.
This course reviews the practice of financial accounting and develops skills in analyzing financial statements. Topics include financial reporting quality and International standards.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

FIN 5604. Derivative Markets. 1 Credit Hour.
This course covers global exchange-traded and over-the-counter futures, options and swap instruments and financial applications. Topics include option investment strategies and structured swap applications.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

FIN 5605. Fixed Income. 1 Credit Hour.
This course examines the features and trading behavior of global fixed income markets. Topics include features of debt securities, bond valuation, interest rate risk immunization and foreign exchange.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.
FIN 5607. Stochastic Calculus & Finance. 1 Credit Hour.
This course covers the mathematical foundations of stochastic calculus with financial applications. Topics include Brownian motion, stochastic integrals and stochastic differential equations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

FIN 5608. Ethics and Leadership I. 1 Credit Hour.
This course examines regulations covering business ethics and standards of professional conduct in the financial services industry.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

FIN 5609. Ethics and Leadership II. 1 Credit Hour.
This course continues the discussion of business leadership and professional conduct in the financial services industry.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

FIN 5612. Asset Pricing. 1.5 Credit Hour.
This course examines the relationship between financial risk and rates of return. Topics include equilibrium and empirical approaches to asset pricing and international asset pricing.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

FIN 5613. Derivative Valuation. 1.5 Credit Hour.
This course explores equity, fixed income, foreign exchange and commodity derivatives valuation and risk management applications. Coursework includes trading in futures and options markets.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

FIN 5614. Continuous Time Finance. 1.5 Credit Hour.
This course covers continuous-time financial theory and option pricing methods. Topics include risk-neutral pricing and equilibrium asset pricing.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

FIN 5617. Financial Institutions & Risk. 1.5 Credit Hour.
This course examines the historical development and inherent risks in the financial services industry. Topics include credit risk, interest rate risk, off-balance sheet risk and regulatory constraints.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.
FIN 5618. Corporate Value Management. 1.5 Credit Hour.
This course examines the drivers of firm value and develops financial statement analysis skills. Topics include free cash flow valuation, industry analysis and valuation in emerging markets.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

FIN 5619. Quant Fixed Income. 1.5 Credit Hour.
The course covers the mathematics driving fixed income markets. Topics include term structure modeling, interest rate immunization and fixed income derivatives.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

FIN 5621. Structured Finance. 1.5 Credit Hour.
This course covers the valuation of asset-backed securities and credit derivatives. Topics include mortgage-backed securities, credit default obligations and credit default swaps.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

FIN 5623. Risk Measurement. 1.5 Credit Hour.
This course examines alternative measures of value-at-risk (VaR) including stress-testing and scenario analysis. Topics include Monte Carlo Methods and risk management failures.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

FIN 5624. Numerical Methods. 1.5 Credit Hour.
This course examines numerical lattice, Monte Carlo and finite difference methods for pricing vanilla and exotic options. Topics include implied trinomial trees and variance reduction techniques.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

FIN 5627. Financial Econometrics. 1.5 Credit Hour.
This course examines linear regression and time series models with applications to corporate finance and investments theory. Topics include interpreting regression coefficients and estimating correlation and volatility using GARCH models.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

FIN 5628. Global Economy. 1.5 Credit Hour.
This course examines global macro-economic conditions. Topics include monetary and fiscal economics, economic indicators, the European Monetary Union and the causes of financial crises.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.
FIN 5629. Value at Risk. 1.5 Credit Hour.
This course examines advanced quantitative methods for estimating the risk of financial loss and risk management applications. Topics include scenario analysis, incremental risk and VaR back testing techniques.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

FIN 5631. Financial Time Series. 1.5 Credit Hour.
This course teaches methods for analyzing time series data and for forecasting future events. The course offers a mix of financial data analysis together with statistical theory.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

FIN 5632. Investment Management. 1.5 Credit Hour.
This course explores portfolio management for individual and institutional investors. Coursework includes formulating a strategic equity and fixed income asset allocation strategy.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

FIN 5634. Stochastic Volatility. 1.5 Credit Hour.
This course examines alternative models of implied volatility and model calibration to observed market data. Topics include the term structure of volatility and jump diffusion models of the volatility smile.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

FIN 5637. Applied Corporate Finance. 1.5 Credit Hour.
This course examines corporate financial restructuring and mergers and acquisitions. Topics include leveraged buyouts, industry capital structure and corporate governance.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

FIN 5638. Behavioral Finance. 1.5 Credit Hour.
This course examines insights of efficient market theory and behavioral finance for the historical pattern of asset prices. Topics include bubbles, momentum and limits to arbitrage.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

FIN 5639. Quantitative Risk Modeling. 1.5 Credit Hour.
This course covers advanced quantitative analysis and assessment of market, credit and operational financial risks. Topics include hedging exotic options and default risk measures.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.
FIN 5641. Alternative Investments. 1.5 Credit Hour.
This course explores proprietary hedge fund strategies and performance measures. Topics include relative value strategies, distressed debt and real estate investment trusts.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may not be repeated for additional credits.

FIN 5642. Entrepreneurial Companies. 1.5 Credit Hour.
This course examines how entrepreneurial firms pursue financing at various growth stages. Topics include private company valuation, venture capital and new issues markets.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may not be repeated for additional credits.

FIN 5643. Structured Products. 1.5 Credit Hour.
This course teaches the financial engineering of structured product and hybrid security offerings. Topics include exotic derivatives and tailored investment strategies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may not be repeated for additional credits.

FIN 5647. Financial Reporting & Analysis. 1.5 Credit Hour.
This course examines advanced financial accounting practices, theory, and issues. Topics include employee compensation, multinational operations and financial reporting quality.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may not be repeated for additional credits.

FIN 5648. Quantitative Portfolios. 1.5 Credit Hour.
This course examines portfolio management based on quantitative techniques versus fundamental valuation methods. Topics include statistical arbitrage and computer-based models for trading.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may not be repeated for additional credits.

FIN 5649. Enterprise Risk Management. 1.5 Credit Hour.
This course covers the analysis and development of a best in practice enterprise-wide risk management system. Topics include corporate risk tolerance and strategic risk and capital management issues.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may not be repeated for additional credits.

FIN 5671. Financial Analysis I. 1.5 Credit Hour.
This course explores the CFA Program's CFA Level I Candidate Body of Knowledge: ethical and professional standards, quantitative methods, economics, financial reporting, corporate finance, equity investments, fixed income, derivatives, alternative investments and portfolio management.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
FIN 5672. Financial Analysis II. 1.5 Credit Hour.
This course examines the CFA Program's CFA Level I and II Candidate Body of Knowledge emphasizing the application of investment tools and concepts in asset pricing.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FIN 5671|Minimum Grade of B-|May not be taken concurrently.

FIN 5673. Financial Risk Management I. 1.5 Credit Hour.
This course explores the FRM Program's Part I Curriculum covering the tools used to assess financial risk: quantitative analysis, fundamental risk management concepts, financial markets and products, and valuation and risk models.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FIN 5674. Financial Risk Management II. 1.5 Credit Hour.
This course examines the FRM Program's Part I and Part II Curriculum focusing on the application of financial risk management tools.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FIN 5673|Minimum Grade of B-|May not be taken concurrently.

FIN 5675. Professional Development. 1 Credit Hour.
This course examines the importance of professional growth to the financial analyst. Topics include career development goals, effective professional communication, leadership and management skills and ethical issues specific to careers in finance.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FIN 5683. Special Study in Finance. .5 to 6 Credit Hours.
Special study is in a particular aspect of finance under the supervision of an appropriate faculty member. No more than six semester hours of special study may be counted toward degree requirements.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may be repeated for additional credit.

FIN 5690. Special Topics in Finance. .5 to 6 Credit Hours.
Special Topics is in a particular aspect of finance under the supervision of an appropriate faculty member. No more than six semester hours of special study may be counted toward degree requirements.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

FIN 5801. Financing the Enterprise. 2 to 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
STAT 5801|Minimum Grade of B-|May not be taken concurrently.
FIN 5802. Enterprise Financial Management. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(FIN 5801|Minimum Grade of B-|May not be taken concurrently)
AND (STAT 5801|Minimum Grade of B-|May not be taken concurrently)

FIN 5882. Independent Study. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

FIN 5890. Special Topics. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

FIN 9001. Corp Finance Theory. 3 Credit Hours.
This course is a rigorous introduction to the fundamental concepts and techniques used in modern financial economic research. Topics include individual investment decisions under uncertainty, stochastic dominance, mean-variance portfolio analysis, various equilibrium and arbitrage pricing models, and option pricing. Upon completion of this course, students are expected to acquire a clear understanding of the major theoretical results concerning individuals' consumption and portfolio decisions under uncertainty and their implications for the valuations of securities.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FIN 9002. Empirical Research in Corporate Finance. 3 Credit Hours.
This course covers a wide variety of topics in corporate finance, including agency theory, capital structure, signaling, executive compensation, ownership structure, boards of directors, corporate control, diversification, venture capital, financial distress, and dividend policy. The analysis is both theoretical and empirical and is based on papers from the leading journals in finance, economics, and accounting. The principal aim of the course is to prepare students to conduct empirical research in corporate finance.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FIN 9001|Minimum Grade of B-|May not be taken concurrently.

FIN 9003. Banking and Financial Institutions. 3 Credit Hours.
This course covers a variety of topics on financial institutions and, in particular, the banking enterprise. Emphasis is on empirical papers. The aim is to prepare students to read the literature critically and to strengthen their independent research skills. Subjects include uniqueness of banks, exposure to interest and exchange rate risks, product diversification, contagion, market and regulatory discipline, and others.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FIN 9004. Seminar in Global Finance and Governance. 3 Credit Hours.
The course introduces students to the basic academic literature in global finance and governance at a doctoral level and to selected advanced topics in this area. The aim is to prepare students to read the literature critically, to strengthen their independent skills, and to help them be ready to select topic in global finance and governance and related areas. Topics will be flexible to class needs but include corporate exchange risk management, international investments, global corporate governance, firm boundaries, financial and strategic issues of multinational firms, and others.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School, Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.
FIN 9005. Empirical Asset Pricing. 3 Credit Hours.
This course is designed to help students bridge the gap between theoretical asset pricing models and the data. Students will read seminal works in empirical asset pricing, implement the methodologies in statistical exercises and produce a research paper that extends the existing literature.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**
(BA 9105|Minimum Grade of B-|May not be taken concurrently)
AND (BA 9106|Minimum Grade of B-|May not be taken concurrently)

FIN 9011. Proseminar in Finance. 1 to 3 Credit Hour.
This course is integrated with the Finance department's external seminar series (speakers from other universities) and internal seminar series (speakers are PhD students and department faculty). Students are required to attend all seminars. They must read the paper and ask questions during each seminar. For a selected number of seminars, students are required to submit a critique of the paper within a week after the seminar.

**Field of Study Restrictions:** Must be enrolled in one of the following Majors: Business Administration.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Philosophy.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School, Sport Tourism Hospitality Mgt.

**Repeatability:** This course may be repeated for additional credit.

FIN 9013. Alternative Investments. 3 Credit Hours.
Alternative assets have become an increasingly important segment of the financial markets. This course analyzes various classes of alternative assets and how they are incorporated into portfolios for diversification and performance enhancement purposes. Topics include private equity, real estate, merger and arbitrage and fund of funds management.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Science.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

FIN 9014. Best Practices in Valuation. 3 Credit Hours.
Corporate valuation deals with managerial decision-making covering two primary topic areas: (i) what projects should the company invest in? and (ii) how does the company finance these investments? This course will provide an in-depth understanding of the models and processes that managers use in making valuation decisions. In particular, covered topics include DCF model, multiple valuation, and transaction analysis. The course consists of a combination of in-class lectures, online material, and business/finance cases.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Science.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

FIN 9015. Corporate Governance. 3 Credit Hours.
In this course, we examine the underlying theory, principles, and practices that surround the governance of modern corporations. The course focuses, in particular, on the mechanisms that shareholders use to ensure that managers maximize shareholder wealth. We will discuss such topics as boards of directors, executive compensation, large shareholders, executive termination and succession, and government regulation.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Science.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.
FIN 9016. Derivatives and Risk Management. 3 Credit Hours.
Financial derivatives are indispensable in today’s business environments. The primary reason for the advent of derivatives has been their application to hedging and risk management. Commercial banks, investment banks, asset managers, mutual funds, hedge funds, pension funds, insurance companies, manufacturing companies, transportation companies, and energy companies are among the participants who are affected by changing conditions in the market and hence engage in risk management using derivative instruments. As the financial markets evolve and change derivatives are likely to emerge as even more vital ingredients of risk management for all kinds of corporations and businesses. The financial crisis, on the other hand, has taught us that clear understanding of derivatives and their price dynamics is ever more important now.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Science.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may not be repeated for additional credits.

FIN 9017. Dissertation Methodologies. 3 Credit Hours.
Research can follow many different methodologies in answering important and interesting questions. This class will cover the primary methodologies used in academic and practical research studies. These methodologies include: theoretical, empirical, survey, experimental, case studies, and a more general breakdown between quantitative and qualitative research. In addition to discussing and reading about the different methods, we will examine several different examples that appear in practice-based and academic-based finance journals.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Science.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may not be repeated for additional credits.

FIN 9018. Financial Markets and Institutions. 3 Credit Hours.
This course provides a survey of financial markets and institutions with a strong current events perspective and emphasis on global linkages. The course will have an applied managerial perspective that focuses on both how the markets are viewed by companies who need access to funding as well as the professionals that work in the financial services industry. The course consists of a combination of in-class lectures, online material, and business/finance cases.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Science.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may not be repeated for additional credits.

FIN 9019. Investment Allocation and Management. 3 Credit Hours.
This course will discuss the concepts of portfolio management within the context of individual and institutional investment portfolios. Topics include the portfolio management process and development of investment policy statements, execution of portfolio decisions, evaluation of portfolio performance and Global Investment Performance Standards. Course materials are heavily weighted toward case studies and practical applications.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Science.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may not be repeated for additional credits.

FIN 9021. Mergers and Acquisitions. 3 Credit Hours.
The course focuses on financial tools, techniques, and best practices used in buyouts (financial buyers) and acquisitions (strategic buyers). While we will touch upon various strategic, organizational, and general management issues, our main lens for studying these transactions will be a financial one. We will explore how different buyers approach the process of finding, evaluating, and analyzing opportunities in the corporate-control market; how they structure deals and how deal structure affects both value creation and value division; how they add value after transaction completion; and how they realize their ultimate objectives (such as enhanced market position or a profitable exit).

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Science.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may not be repeated for additional credits.
FIN 9022. Private Equity. 3 Credit Hours.
Understanding the philosophy of science and conduct of scholarly applied research is fundamental for undertaking high-quality research. This course introduces students to the philosophy of scientific inquiry, common research approaches (e.g., quantitative, qualitative) and common epistemological perspectives (e.g., positivistic, interpretative, and critical research). The trade-off between scientific rigor and practical relevance is covered with emphasis on conducting rigorous research with practical implications. Students are introduced to practical issues about undertaking applied research, such as identifying a research topic, forming research questions, conducting literature review, and developing a plan for actual fieldwork and data collection. Finally, the course aims at helping students identify a personal interest in a particular type and area of applied research to undertake specific projects during their tenure as the doctoral program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Science.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

FIN 9023. Real Estate Finance. 3 Credit Hours.
This course explores real estate finance and quantitative methods that are used in the valuation of real estate. Students develop an understanding of real estate financing and valuation as well as related topics such as underwriting, risk analysis, and financial leverage. In addition, students learn about the mortgage market and the securitization process for residential and commercial mortgages. The course also includes analysis of both residential and commercial real estate markets.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Science.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

FIN 9090. Spec Topic Finance. 1 to 6 Credit Hour.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

FIN 9183. Directed Study in Fin. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Foreign Language Education (Secondary) (FLED)

Courses
FLED 5429. Curriculum and Methods in Foreign Languages. 3 Credit Hours.
Readings, theory, research, and demonstrations related to current methods and approaches for teaching foreign and second languages. Differences between learning a second language as a child, teenager, and an adult are explored. For foreign language, TESOL, and bilingual education teachers.

College Restrictions: Must be enrolled in one of the following Colleges: Education.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.
Cohort Restrictions: Must be enrolled in one of the following Cohorts: EDCNDCY.

Repeatability: This course may not be repeated for additional credits.

FLED 5431. Innovations in Foreign Language Education. 3 Credit Hours.
For foreign language, TESOL, and bilingual teachers. Recent innovations or trends in foreign and second language education. Topics such as whole language, cooperative learning, authentic materials, pair and small group communicative activities in teaching the four skills, dialogue journals, jazz chants, and creating student and teacher-made materials.

College Restrictions: Must be enrolled in one of the following Colleges: Education.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.
Cohort Restrictions: Must be enrolled in one of the following Cohorts: EDCNDCY.

Repeatability: This course may not be repeated for additional credits.
FLED 5433. Multimedia Approaches to Teaching Foreign Language. 3 Credit Hours.
Effective uses of various types of media in teaching all aspects of foreign and second language. Creating stimulating materials and demonstrating their use through mini-lessons. For foreign language, TESOL, and bilingual teachers.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FLED 5435. Applic Res Sec Lang Ed. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FLED 5437. Teaching Second Language Culture. 3 Credit Hours.
Devoted to how to teach culture and what to include. Identifying patterns of the target culture and areas of misunderstanding between cultures. Comparisons made between one's native culture and the target culture. Materials based on mini-dramas, simulations, and nonverbal communication are demonstrated and prepared by students for classroom use. For foreign language, TESOL, and bilingual education teachers.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

FLED 5460. Spec Proj Foreign Lng Ed. 3 to 6 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

FLED 5470. Spec Proj Foreign Lng Ed. 3 to 6 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

FLED 8645. Sem in Sec Foreign Lang Ed. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Gender, Sexuality, and Women's Studies (GSWS)

Courses

GSWS 5000. Topics in Women's Studies. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

GSWS 8001. Introduction to Feminist Studies. 3 Credit Hours.
This course provides a general introduction to students interested in the interdisciplinary field of Women's Studies as well as in applying feminist methods of research, analysis and practice in their own disciplines.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

GSWS 9082. Independent Study. 3 Credit Hours.
Independent work on a project related to Women's Studies supervised by a member of the Women's Studies Affiliated Faculty.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
GSWS 9991. Seminar in Feminist Research. 1 to 3 Credit Hour.
Students will present research on topics related to gender and feminist theory. Discussions depend on common readings on what constitutes feminist research and focus on an analysis and critique of the papers presented.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**Geography and Urban Studies (GUS)**

**Courses**

**GUS 5000. Special Topic Seminars. 3 Credit Hours.**
A faculty member offers special seminars in a research specialty. Recent topics have included current perspectives on development, the information and technology needs of low resource community organizations, and information systems design and management.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**GUS 5010. Special Topics in GUS. 3 Credit Hours.**
Variable content; see graduate chair for specific details.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**GUS 5014. Urban Social Geography. 3 Credit Hours.**
The course acquaints students with social and cultural understandings of urban space in the U.S. city. Students are asked to use photography to explore how geography grounds itself on the landscape.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**GUS 5015. Land Use Planning. 3 Credit Hours.**
This course is an examination of the forces that influence land use planning in and around American metropolitan regions. It considers economic perspectives (land values); public interest perspectives (zoning subdivision, housing and building codes, redevelopment and renewal programs, etc.); and social perspectives of land use. Also examined are separate housing, commercial locations, and industrial development.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**GUS 5017. Health and Environment Seminar. 3 Credit Hours.**
This course addresses the relationship between community-level characteristics, such as neighborhood socioeconomic disadvantage, with health outcomes, with an emphasis on health behaviors such as substance use, exercise, and healthy eating. Access to resources such as health services and nutritious food will be examined, as will exposure to harmful or risky environmental conditions that can promote disease. A methodological focus will address how environmental influences on health is analyzed, as well as how individual-level characteristics such as age, sex, race/ethnicity, and peer and family relationships may moderate such influences. The role of community level factors in health disparities will also be examined.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**GUS 5018. Economic Development and Planning Cities. 3 Credit Hours.**
The focus is on the causes of economic decline in American cities, history of governmental policies to promote urban economic development, and major tools available to local economic planners, with special emphasis on the political issues of who controls the programs and who reaps the benefits.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.
GUS 5021. International Urbanization. 3 Credit Hours.
This course examines urbanization around the world. The focus may include issues of rapidly industrializing areas, as well as postcolonial and transition societies. Students address topics related to the effects of rapid social and spatial change in a variety of settings. They also examine the problems of providing housing and urban infrastructure in rapidly urbanizing areas, as well as the social and cultural tensions related to urban change.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

GUS 5031. GIS Programming. 3 Credit Hours.
Building on previous coursework with Geographic Information Systems (GIS), students will learn computer programming in a GIS environment. Students will design and execute spatial data management and spatial analysis projects using automated geoprocessing functions available in the built-in scripting languages of prominent GIS software packages, with an emphasis on the Python programming language. Students will learn programming concepts such as variable typing, function definition, conditional evaluation, looping, and object-oriented programming. The course will also introduce geospatial programming strategies independent of any specific GIS software.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
GUS 5062 Minimum Grade of B- May not be taken concurrently.

GUS 5041. Sustainable Natural-Human Systems. 3 Credit Hours.
This course provides the scientific basis and theoretical background for understanding the most essential challenges to address sustainability in natural-human systems. The course will provide knowledge about theories, conceptual frameworks and research methods to understand and appreciate the interactions and co-dependencies between human and natural systems. The course will also introduce students to the main global research and policy agendas to understand and address sustainability in natural-human systems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

GUS 5044. Urban Housing. 3 Credit Hours.
An overview of the economic, social, physical, and political forces that have molded the present urban housing stock is provided. Also examined are the implications of present urban housing stock, implications of present trends for the future, and the development of rational housing policies, emphasizing the Philadelphia metropolitan area.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

GUS 5051. Hazards Geography. 3 Credit Hours.
Natural and technological hazards are the focus for this course. We review the evolution of theoretical and applied conceptualizations of "hazard" and hazard vulnerability, examine the human dimensions of the resultant hazardscapes, and look to past, present, and anticipated "cases on the ground." Our emphasis is on geographical approaches, but this can be read as a broadly interdisciplinary perspective, as is typical of most geographical analysis. Among the varied issues we may take up are metropolitan impacts of climate change, coastal vulnerability, nuclear hazards, seismic threats, and public health threats associated with disease, hunger, and nutrition. Global, as well as U.S. and local perspectives, are integral to the course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

GUS 5056. Political Ecology. 3 Credit Hours.
Political ecology is an integrated, interdisciplinary approach to the study of human-nature relations. This course examines resource use, the construction of landscapes, questions of structure-agency, and definitions of "nature" and "development." We study cases at a variety of spatial scales and settings, and include examples from industrialized countries as well as non-industrialized regions. Topics are diverse, ranging from subsistence fishing to access to green spaces in cities. The critical roles of the state, non-governmental organizations, and individual actors in shaping social, political, and economic landscapes are considered.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
GUS 5061. Cartographic Production. 3 Credit Hours.
This course presents advanced approaches to design and production of thematic maps.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

GUS 5062. Fundamentals of Geographical Information Systems. 3 Credit Hours.
This course prepares students with the knowledge necessary to effectively use GIS software packages, and covers fundamental principles such as spatial data models, database management systems, network modeling and geo-coding, and basic vector and raster operations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

GUS 5063. Remote Sensing. 3 Credit Hours.
This course introduces students to the most basic concepts and skills for downloading, exploring and processing satellite data for broad remote sensing applications. The course is designed to guide students through the most relevant steps required from acquisition to production for the application of remote sensing to agriculture, forestry, ecology and hydrology, as well as for characterizing and assessing changes in urban and rural landscapes and in seascapes. The course will include weekly lab sessions that will allow students to apply the concepts and procedures learned in class and improve their skills on the use and application of remote sensing information.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
GUS 3062|Minimum Grade of C-|May not be taken concurrently
OR ENST 3062|Minimum Grade of C-|May not be taken concurrently
OR GUS 5062|Minimum Grade of C-|May not be taken concurrently.

GUS 5065. Urban Geographical Information Systems. 3 Credit Hours.
Assuming basic familiarity with Geographic Information Systems, this course focuses on applying GIS techniques to the study of such processes as urban sprawl, socioeconomic change, and ecological functioning of urban regions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
GUS 5062|Minimum Grade of B-|May not be taken concurrently.

GUS 5066. Environmental Applications of GIS. 3 Credit Hours.
Geographic Information Systems are widely used to investigate environmental processes and to develop solutions to environmental issues. This course will build upon concepts introduced in Fundamentals of GIS to investigate how the techniques, data, and interpretations from GIS analysis are applied across a variety of environmental fields. Topics to be covered include natural hazard vulnerabilities, global climate change, renewable energy potential, environmental health, and conservation. The course structure will consist of lecture, class discussion, and GIS-based lab activities. Students will be expected to read academic and professional literature and to actively participate in and lead class discussions. Students will also be expected to develop a final project on an environmental topic.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
GUS 5062|Minimum Grade of B-|May not be taken concurrently.

GUS 5067. GIS and Location Analysis. 3 Credit Hours.
This course examines the concepts and techniques of location analysis - how to 1) describe the spatial arrangements of features on the earth's surface and 2) prescribe the best location or spatial arrangement of features for a particular activity - for economic and social service applications. The course introduces concepts in Geographic Information Systems (GIS) and spatial statistics to address issues of location.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
GUS 5068. Census Analysis with Geographical Information Systems. 3 Credit Hours.
Students gain an understanding of U.S. census geography and tabular data through the use of GIS. Activities, discussions, and lectures familiarize students with U.S. Census Bureau data, while lab assignments and exercises provide experience using GIS to analyze real world problems. By the end of the semester, students will have learned a variety of advanced GIS techniques and be able to make effective use of census data for academic research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

GUS 5069. GIS for Health Data Analysis. 3 Credit Hours.
Geographic Information Systems (GIS) has emerged as an essential tool for the analysis of health and disease data. This course provides an introduction to the most common geographic methods used for mapping and analyzing health disparities, disease risk factors, health services and geographic variation in health outcomes and disease. Through lecture and laboratory exercises students will learn how to create and edit spatial data, create disease maps, develop neighborhood-based measures, conduct geographic cluster detection and point pattern analysis, locate and map geographic health disparities, measure geographic access to health services, and critically assess potential study bias introduced from missing geographic data or positional accuracy.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

GUS 5071. Medical Geography. 3 Credit Hours.
This course offers an analysis of the factors responsible for the geographic patterns of disease, mortality, and health care services: the role of the environment in evaluating mortality and disease patterns.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

GUS 5072. Advanced Remote Sensing. 3 Credit Hours.
This hands-on course will provide skills and knowledge for the effective and efficient processing and analysis of satellite data for advanced applications with emphasis in the application of remote sensing for detecting and monitoring socio-environmental changes. The course will include a semester-long project where students will apply the concepts and procedures learned to their own research or a particular topic of their interest. Students will learn programming skills for effective and efficient processing of remote sensing data.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(GUS 3063|Minimum Grade of C-|May not be taken concurrently
OR ENST 3063|Minimum Grade of C-|May not be taken concurrently
OR GUS 5063|Minimum Grade of C-|May not be taken concurrently)
AND (GUS 3062|Minimum Grade of C-|May not be taken concurrently
OR ENST 3062|Minimum Grade of C-|May not be taken concurrently
OR GUS 5062|Minimum Grade of C-|May not be taken concurrently)

GUS 5073. Geovisualization. 3 Credit Hours.
Maps can be powerful devices for communication, but also tools for exploration of relationships among social and physical processes manifesting in space. This computer-intensive course will focus on this dual purpose of maps as tools for visual communication and visual thinking. You will create data-driven products that combine geographic and statistical visualizations for static, interactive, and animated display. Previous experience with a programming language will be helpful. A previous course in cartography is recommended but not required. Heavy emphasis on open source tools.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
GUS 3161|Minimum Grade of C-|May not be taken concurrently
OR GUS 5161|Minimum Grade of C-|May not be taken concurrently.
GUS 5075. Regional Development. 3 Credit Hours.
This course examines the transformations, beginning with the European expansion 500 years ago, that have, to a large extent, created the regional variation we see today. Theoretical approaches to understanding "modernization" and "development" are considered. This foundation is then built on to look at the historic factors that have shaped different parts of the world. Examined are the political, economic, social, spatial, and environmental processes that have shaped those countries that share a colonial past (our primary focus) as well as North America, Asia, Japan, and Eastern Europe.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

GUS 5096. Problems in Environmental Quality. 3 Credit Hours.
Local urban environmental problems are considered by members of the class in research teams, with a view toward seeking possible solutions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

GUS 5097. Race, Class, Gender in Cities. 3 Credit Hours.
This research seminar examines the spatial dimensions of metropolitan inequality, focusing on how inequality is perpetuated along race, class, and gender lines. Topics include urban growth politics, zoning and land use planning, domestic architecture, racial segregation, poverty, and homelessness. Students design a research proposal based on course materials.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

GUS 5159. Geographic Inquiry. 3 Credit Hours.
This course familiarizes students with the theoretical, conceptual, and methodological debates underlying the use of spatial analysis in the social sciences. Students explore how place, space, and scale are conceptualized and utilized to examine urban processes as well as different approaches to spatial representation, including visual, mathematical, digital, and cognitive.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

GUS 5161. Statistics for Urban Spatial Analysis. 3 Credit Hours.
This course provides an introduction to statistical analysis of spatial phenomena and processes with an emphasis on urban applications using a variety of economic, demographic, health, crime, and environmental data sets. The course covers the basic principles of sampling, probability, and tests of significance; spatial exploratory data analysis (SEDA); measures of association; ordinary least squares regression; and factor, principal component, and cluster analysis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

GUS 5162. Advanced Statistics for Urban Applications. 3 Credit Hours.
This course teaches advanced statistical methods to examine urban processes and patterns. The course covers spatial point pattern analysis, multivariate regression, logit and probit regression, spatial econometrics, Geographically Weighted Regression (GWR), and hierarchical linear modeling.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
GUS 5161|May not be taken concurrently.

GUS 5163. Qualitative Methods. 3 Credit Hours.
This course is designed to foster an understanding of the principles and appropriate application of qualitative methods in Urban Studies. It provides an overview of qualitative research design and emphasizes the connections between grounded theory, explorative inquiry, and thick description. Specific skills that are introduced include participant observation, in-depth and open-ended interviewing, oral histories, case study analysis, focus groups, narrative analysis, content analysis, archival analysis, and social action methods. The course examines the limitations and advantages of qualitative approaches, triangulation with quantitative methods, and ethical issues in conducting research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
GUS 5165. Community Based Program Evaluation. 3 Credit Hours.
The course focuses on how to design and conduct evaluation plans that are useful for improving community-based human service and educational
programs, as well as the challenges encountered in conducting evaluations in real world settings. A major emphasis is on the various methods and
issues involved in conceptualizing, planning, conducting, and utilizing program evaluations. Among the topics covered are logic models and program
theory, evaluability assessment, needs assessment, and process and outcome evaluation design.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

GUS 5304. Food Studies. 3 Credit Hours.
This course introduces students to key issues in food systems from a geographical and environmental perspective. The course begins with an
overview of what constitutes a food system and critically examines agricultural transitions that took place over the last century, including the erasure of
nondominant rural imaginaries. After, the course turns to look at issues of food security, access and control, focusing our attention to the question of how
to produce more just food systems. We end with an exploration in critical nutrition and food-body relationships.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

GUS 5307. Transportation and Culture. 3 Credit Hours.
Students will learn to approach the modern geography of transportative possibility from a critical standpoint. Rather than accepting this contemporary
geography as being the outcome of supposedly "superior" transport technologies' rendering marginalized technologies obsolete, students will examine
how processes of cultural and political struggle have shaped, opened up, and in some cases limited the modern array of possibilities for human mobility.
Waterborne, animal-based, and human-powered modes of transportation will receive special attention, as will ongoing debates and struggles over
automobile planning and urban mass transit. The history of transportation will be presented as necessarily entangled with parallel histories of public
protest, political struggle, emergency logistics, human-animal relations, and environmental geography. The course readings will look at many parts of
the world.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

GUS 8006. Geographic Thought. 3 Credit Hours.
This course reviews current concepts and methods used in geographic and urban interdisciplinary research. The major goals are to have students trace
the pedigree of their research interests and develop a bibliography of essential readings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

GUS 8010. Geographic Inquiry. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

GUS 8011. History and Theory of Urban Studies. 3 Credit Hours.
This course provides students with the foundational knowledge to pursue graduate studies in the interdisciplinary field of Urban Studies. It surveys the
historical and philosophical bases of contemporary urban studies and provides an introduction to contemporary explanatory frameworks and associated
critiques in the social sciences.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

GUS 8016. Public Policy for Urban Regions. 3 Credit Hours.
This course introduces students to the major policy approaches used to sustain and develop cities and regions in the United States and beyond - i.e.,
direct government intervention, market models, and third sector institutions. The course examines the changes brought about by globalization in the
scope and function of governments, including regulatory regimes and privatization of services and infrastructure. Students analyze the consequences of
different policy approaches for social equity, environmental sustainability, and economic growth.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
GUS 8021. Geography of Urban Services. 3 Credit Hours.
The course provides an analysis of concepts basic to understanding spatial service patterns and emphasizes use of models in service area delineation.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

GUS 8031. Critical Issues in Globalization, Sustainability, and Social Justice. 3 Credit Hours.
This course explores the theories, facts, and debates related to globalization, sustainability, and social justice, the themes that are critical to understanding contemporary urban conditions and dynamics. It provides students with an overview of a wide range of issues, in a number of U.S. and international settings, and at several spatial scales. The material is foundational for making decisions on research topics.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

GUS 8033. Urban Economic and Spatial Structure. 3 Credit Hours.
This course provides an introduction to the analysis of urban economic and spatial structure. Key ideas from urban economic theory (comparative advantage, scale economies, location economies, urbanization economies, clustering, increasing returns) are introduced. They are combined with key ideas from trade theory (transportation cost and globalization) and the impact of federal, state, and local government policies on creating and changing internal structures of cities and their consequences for access and distribution in fragmented metropolises.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

GUS 8043. Seminar on Homelessness in America. 3 Credit Hours.
This course explores various issues relating to homelessness, with a focus on public policy and research. A dominant theme is how public policy decisions have contributed to this problem. Topics are the experience of being homeless, the epidemiology of homelessness, structural and individual theories of homelessness, the history of homelessness in the United States, substance abuse and mental illness among the homeless, homeless women and children, homelessness in Philadelphia, and public policies needed to address the problem.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

GUS 8045. Poverty and Employment. 3 Credit Hours.
The course examines the relationships among the globalization of the economy, economic restructuring, metropolitan labor markets, and poverty focusing on contemporary U.S. cities. It evaluates theoretical and public policy debates about employment and poverty. Particular attention is paid to how class, gender, and racial inequities are reproduced in the urban economy.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

GUS 8047. Comparative Urban History. 3 Credit Hours.
The course reviews methodological tools for comparative readings and research on the history of cities, across cultural and chronological boundaries.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

GUS 8050. Environmental Seminar. 3 Credit Hours.
The course examines the ecological consequences of contemporary economic development. Focus is on countries at the low end of the developmental scale in Latin America, Africa, and South Asia. The course illustrates through case studies how changes in the relations of production give rise to increasing degradation of resources.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.
GUS 8055. Sustainable Cities. 3 Credit Hours.  
This course introduces the concept of sustainability and explores environmental problems linked to urbanization, drawing on historical analysis, social theory, landscape ecology, and city planning/design practice. Primary topics covered include social and economic drivers of urban development and suburban sprawl; the principle of carrying capacity; the measurement of landscape-scale ecological function (e.g., habitat fragmentation); and the use of decision support tools to generate alternative policy scenarios for urban sustainability planning.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

GUS 8065. Cartographic Design. 3 Credit Hours.  
This course introduces students to computer-based cartographic design for both online and paper publishing. Principles of cartography including symbolization, layout, color, and typography will be applied to the creation of reference maps and thematic maps. Strong emphasis on achieving eye-catching, informative, and unambiguous visual communication through the use of industry-standard GIS and graphic design software.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

GUS 8066. Application Development for Geographic Information Systems. 3 Credit Hours.  
This course introduces students to geospatial software development through the creation of standalone software applications and plugins that add new functionality to major GIS software products. The emphasis will be on geospatial algorithms and object-oriented programming. Other topics in software design will be addressed including documentation, version control, user interface design, software testing, and software project management. The course will be taught using Python, JavaScript, or another major programming language with strong geospatial support. There will be a heavy emphasis on Free and Open Source Software, and active participation in the developer community outside of the classroom. At the end of the course students will have produced fully functioning geospatial software, shared their code to a public online repository, generated documentation, and promoted their work publicly.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:  
(GUS 5062|Minimum Grade of B-|May not be taken concurrently)  
AND (GUS 5031|Minimum Grade of B-|May not be taken concurrently)

GUS 8067. Spatial Database Design. 3 Credit Hours.  
The focus of this course is on the design and management of spatial databases. Topics covered include the database design process, spatial storage and access methods, relational and object-relational database models, and spatial query languages. Students will learn fundamental spatial database design concepts as well as their implementation and application within geographic information systems (GIS). Emphasis is placed on developing skills necessary for management of both desktop and enterprise-wide GIS databases. At the end of the course students are expected to know how to design relational and object-relational schemas for GIS databases, implement database designs in spatial database management systems (DBMS), and retrieve and manage spatial data in a GIS database.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:  
GUS 5062|Minimum Grade of B-|May not be taken concurrently.

GUS 8068. Web Mapping and Map Servers. 3 Credit Hours.  
In this course, students will explore theoretical and practical concepts of Web GIS (Internet GIS). From a theoretical perspective they will study about advantages and techniques for publishing, visualizing and accessing maps on the Internet including architecture of Web GIS/Web mapping systems, markup languages (e.g. HTML, XML, SVG and GML), a scripting language, screen cartography, data sharing and geoportals, spatial web services and OGC standards. From a practical perspective they will learn to develop Web GIS/Web mapping applications including static and interactive web mapping systems. They will also learn and work with some famous open source software and libraries for developing a Web GIS.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:  
GUS 5062|Minimum Grade of B-|May not be taken concurrently.
GUS 8069. GIS Ethics and Professional Practice. 3 Credit Hours.
The focus of this course is on the ethical use and application of spatial data and geographic information systems and technologies. Topics covered include overviews of the geospatial industry and GIS profession, issues of spatial data sharing, the maintenance of privacy, and laws applicable to spatial data and GIS. Students will learn about the primary GIS industry sectors and professional organizations, and the codes of ethics and codes of conduct associated with being a GIS professional. A variety of case studies presenting ethical issues relating to the ethical use and application of spatial data and GIS are presented and discussed throughout the semester as a vehicle for exploring issues of ethics and professional practice. At the end of the course students are expected to be able to define the GIS industry, its sectors, and its workforce; explain the legal and ethical issues germane to the GIS profession; demonstrate familiarity with potential ethical challenges presented to GIS professionals; and understand how established codes of ethics and conduct apply to the GIS profession.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
GUS 5062|Minimum Grade of B-|May not be taken concurrently.

GUS 8097. Research Design. 3 Credit Hours.
The goals of this course are to provide students with an understanding of the basic concepts underlying different spatial approaches to research design and analysis. The course emphasizes fundamentals of designing investigations using a variety of methods and data to better understand urban processes, problems, and topics. Students learn to critically evaluate and conduct research, formulate meaningful research questions, design studies using different research methods, and develop a rigorous research proposal.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

GUS 8113. Community-Based Research. 3 Credit Hours.
This course deals with applied, empirical research experience on issues affecting urban communities in the Philadelphia area. Students conduct research projects in collaboration with local community organizations working for community change. The course includes the study of contemporary urban issues and training in research methods, applied research techniques, report writing, and negotiating client-driven research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

GUS 8985. Teaching in Higher Education: Social Sciences. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

GUS 9082. Independent Study: Geography and Urban Studies. 1 to 3 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

GUS 9083. Readings in Geography. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

GUS 9085. Internship in Geography and Urban Studies. 3 Credit Hours.
The internship provides on-the-job training for graduate students with local consulting firms, planning commissions, community organizations, and various state, local, and federal government agencies in the Philadelphia metropolitan area.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

GUS 9086. Internship Paper. 1 to 6 Credit Hour.
Students complete a summary paper that is based on their experience in the field.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
GUS 9087. Mapping Practicum I. 3 Credit Hours.
Students are assigned cartographic projects and encouraged to plan, design, and execute them for faculty and those from outside firms and planning agencies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

GUS 9187. GIS Capstone. 3 Credit Hours.
The GIS Capstone course provides an experiential learning experience for students matriculated in the Professional Science Master's in GIS program at Temple. Students engage in a structured internship experience (140 hours during the semester), identified with the guidance of PSM faculty at Temple and a prospective employer. The student will complete a GIS-oriented project during the internship that draws on the GIScience and professional skills developed through the PSM curriculum. Student performance will be evaluated based on three criteria: 1) employer report of student performance during the internship, 2) student presentation of project, and 3) student-submitted report of project. The projects will be presented to PSM faculty and students at the conclusion of the semester and reports will be made available to employers and members of the Advisory Board. This course is required for all students matriculated in the GIS PSM at Temple. Students are expected to complete 140 hours of internship experience during the semester and to participate in an online course to reflect on their experiences during the internship. STUDENTS MUST have their internship opportunity approved by the instructor prior to the start of the semester.

Department Restrictions: Must be enrolled in one of the following Departments: CLA:Geography & Urban Studies.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
GUS 5062|Minimum Grade of B-|May not be taken concurrently.

GUS 9991. Master's Research Paper. 3 Credit Hours.
Students develop a high-quality research paper on a topic of their choice. Students connect the development of their paper to their work within a specific course as a means of facilitating their project. Students also work with an individual advisor to develop the content, implement the project design, and approve the final paper.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

GUS 9994. Doctoral Qualifying Examination. 1 Credit Hour.
Preparation for the preliminary examination.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

GUS 9996. Masters Research. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

GUS 9998. Dissertation Proposal. 1 to 3 Credit Hour.
Preparation of the dissertation proposal in consultation with the primary dissertation supervisor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

GUS 9999. Dissertation Research. 1 to 6 Credit Hour.
After passing the Qualifying Exam, continuous registration in 9999 during the Fall and Spring semesters is required until the dissertation is successfully defended. One credit is the minimum required each semester after the proposal defense and while the student is researching and writing the dissertation. A minimum of 6 s.h. of GUS 9999 must be taken before one can secure the Ph.D. degree.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.

Globalization and Development Communication (GDC)
Courses

GDC 8001. Seminar in Media, Communication and Development. 3 Credit Hours.
This intensive seminar consists of twelve sessions providing an introduction to the program and an overview of the historical roots, political influences, institutional arrangements, and cultural considerations that have shaped and defined the field of development communication. This course prepares each new cohort of students for the rigors of the program by equipping them with a solid foundation in history and trajectories of development communication theory and practice. Throughout the seminar, participants are immersed in key readings and engage in a range of activities designed to foster a deeper theoretical and critical understanding of the issues covered. By the end of the course, students are able to take full advantage of the programs/s curriculum by proposing a specific program of study including which specialization they will pursue. NOTE: This 3 credit hour course will only be offered during the three weeks prior to each fall semester (12 meetings total, 3 contact hours per meeting), and is for incoming students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

GDC 8002. Communication for Social Change Project Design. 3 Credit Hours.
Recognizing the power of communication as a catalyst for social change, this course focuses on how development communication projects intended for a specific target audience are designed, managed and refined. The course also provides instruction in project monitoring and evaluation, decision-making tools, and human resource management as related to key aspects of development communication, such as behavior change, social marketing, social mobilization, media advocacy, and participatory development communication.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
Pre-requisites:
GDC 8001|Minimum Grade of B-|May not be taken concurrently.

GDC 8003. Research Approaches in Communication, Development and Social Change. 3 Credit Hours.
This course provides a hands-on approach to learning a series of research methods and fieldwork approaches used in the field of communication, development and social change. Students will learn different strategies to conduct fieldwork in marginalized communities, including participatory research and action research. The course focuses on practical research skills including how to formulate research questions, gather primary and secondary data, complete formative and summative research reports, and develop qualitative and quantitative data analysis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

GDC 8089. Field Experience. 3 Credit Hours.
The Field Experience is a custom-designed course that provides the opportunity for Globalization and Development Communication (GDC) students to apply course work to practice and/or research experiences. Field experiences can include internships with governmental and non-governmental organizations, research projects with socially responsible businesses, and participation in community development initiatives or media productions for social changes that allow students to acquire knowledge and new skills and become more reflective development practitioners. NOTE: This 3 credit hour course takes the form of a “hybrid,” with students meeting with the instructor during several days of the “Maymester” term and completing their field experiences independently during the summer under the supervision and evaluation of the course instructor. The course is for outgoing GDC students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.
Pre-requisites:
GDC 8002|Minimum Grade of B-|May not be taken concurrently.

Graduate Advanced Education and General Dentistry (ADVG)

Courses

ADVG 9085. Advanced Education in General Dentistry I Clinical Practice. 9 Credit Hours.
Clinical experience and documentation in diagnosis, treatment and prevention of dental diseases, and oral health maintenance care. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.
ADVG 9185. Advanced Education in General Dentistry II Clinical Practice. 9 Credit Hours.
Clinical experience and documentation in diagnosis, treatment and prevention of dental diseases, and oral health maintenance care. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

Graduate Endodontic (ENDG)

Courses

ENDG 8111. Pain in Dentistry: Diagnosis and Control. 2 Credit Hours.
Pathophysiology of orofacial pain, including transmission mechanisms, role of neurotransmitters and neuroregulators, neurology and classification of head and neck pain, differential diagnostic procedures, and a survey of pain control measures. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ENDG 8112. Pulp Biology I. 2 Credit Hours.
Development, structure, histology, biochemistry, and physiology of tooth pulp tissues in health and disease. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ENDG 8113. Periapical Biology I. 4 Credit Hours.
Development, structure, histology, biochemistry, and physiology of the tooth root apex and surrounding periapical tissues in health and disease. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ENDG 8114. Biologic Basis of Disease. 2 Credit Hours.
Basic biologic structures and processes underlying growth and destruction of human body tissues, including fundamentals of acute and chronic inflammation, the complement cascade, mechanisms of cell-mediated and humoral immune responses, ligand-cell receptor complexes, and receptor diseases.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ENDG 8115. Current Clinical Concepts. 2 Credit Hours.
In this course, students learn to describe the characteristics and variations of ideal root canal access using proper instruments as well as the details of floor anatomy and the location of orifices. They will gain the ability to analyze, synthesize and evaluate data and knowledge related to various aspects of clinical endodontics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ENDG 8116. Endodontic Microbiology/Immunology. 2 Credit Hours.
Microbial structure, genetics, disinfection/sterilization, immunology, biology, and virulence relative to pulpal and periapical infections.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
ENDG 8117. Systemic Diseases. 1.5 Credit Hour.
The student will be able to understand the significance of how different diseases and medical conditions may impact Endodontic treatment and prognosis, appreciate the relevance of an understanding of different diseases and medical conditions, and thoroughly learn and discuss the different diseases and medical conditions that may be encountered in treating their patients.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ENDG 8118. Endodontics Surgery. 2.5 Credit Hours.
This course enables students to understand the rationale for different surgical procedures, adequately and competently perform various endodontic surgical procedures, have a thorough knowledge of the different types of flap designs, and have a complete understanding of how and when to use the different types of guided tissue and bone regeneration materials.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ENDG 8119. Teaching for Sophomore Preclinical Lab. 2 Credit Hours.
The graduate students participate in teaching the sophomore students in hands-on endodontics prior to their entry into the clinic. This is done on a weekly basis in the Spring semester

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ENDG 8120. Clinical Seminar in Endodontology. 2 Credit Hours.
Students will become proficient in presenting evidence-based cases at the level of expectation/standard of the American Board of Endodontics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENDG 8122. Dental Traumatology. 1 Credit Hour.
Upon completion of this course, the student should be able to classify, provide a comprehensive treatment regimen, and provide opportunities for analysis, synthesis, and evaluation of data and knowledge on the different types of dental injuries.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ENDG 8123. Fundamental Methods and Materials. 1 Credit Hour.
The student should be completely knowledgeable as to: 1. The different diagnostic methods; 2. All currently available instruments and instrumentation techniques; 3. The purpose, composition, and uses of all medicaments, irrigants and obturation materials currently in use; 4. The different obturation techniques; 5. Sealers - their uses, composition and purpose; 6. Temporary coronal sealing materials - composition and purpose; 7. Retrofilling materials - composition and purpose.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ENDG 8130. Current Endodontics Literature Review. 1 Credit Hour.
Critical review of recent basic science and clinical literature pertinent to endodontics. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ENDG 8140. Classical Endodontics Literature Review. 1 Credit Hour.
Critical evaluation of classical scientific literature in endodontics and pulp biology. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
ENDG 8212. Pulp Biology II. 2 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

ENDG 8213. Periapical Biology II. 2 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ENDG 9185. Emergency Endodontics Clinic. 3 Credit Hours.
Everyday, two endodontic students are assigned to emergency duty to perform emergency Endodontic procedures. This is done on a rotation basis.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

ENDG 9285. Endodontics Clinic. 1 to 12 Credit Hour.
This course focuses on the treatment of patients in the clinic. The student is expected to demonstrate graduate level of proficiency in Endodontic diagnosis, treatment skills, and management of patients. Special clinical emphasis is placed on endodontic re-treatment, periapical surgery, and contemporary management of complex and/or refractory endodontic lesions.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

Graduate Orthodontics (ORTG)

Courses

ORTG 8400. Diagnosis and Treatment Planning Conference. 4 Credit Hours.
The student will be exposed to a different case each conference. There will be discussion on the diagnosis, treatment goals, treatment plan and the treatment mechanics. Each student will be expected to demonstrate critical and original thinking. The discussions will be evidenced based. Ethics of the resulting treatment plan and the treatment will also be incorporated.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

ORTG 8401. Orthodontic Technique Lab. 1 to 6 Credit Hour.
This course is designed for the entering graduate student to learn the essential principles of orthodontic appliances utilizing the typodont. The typodonts are occluded on a hinge articulator to simulate the typical malocclusion(s). Students bend wires and apply auxiliary force modules to move the teeth to correct the maloclusion. This course is augmented by introduction and discussions of orthodontic instruments, use of extraoral appliances, wire properties, an overview of engineering principles of orthodontic mechanics as indicated in the course schedule. Students will be assigned readings to prepare for the day's agenda. Moreover, this course is the entering students' first exposure to the graduate orthodontic curriculum; and sessions take up the entire day. Thus, the intense one-on-one time spent with the instructors, and senior residents is also critical for transition into the rest of the curriculum. The principal goal of this course is to train the beginning resident in the techniques and use of orthodontic appliances. Course prerequisite: enrollment in the Year 1 of graduate orthodontic specialty program.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ORTG 8402. Orthodontic Principles and Techniques. 1 Credit Hour.
This Principles of Orthodontics course is a seminar and independent study course that provides a review of orthodontics and its history. It includes discussions of essential literature on the nature of orthodontic specialty and introduces the student to orthodontic data collection, software, and patient management. Included in the topics of instruction are history of orthodontics, essentials of making various impressions, 2D and 3D imaging technologies, orthodontic insurance, and photography. Students are assigned to make PowerPoint presentations in various topics in orthodontic history. The course sessions are conducted as lectures and seminars where students, who have previously read and independently studied the assigned reading materials, will discuss, provide summary statements, critical analysis, and answers to questions in roundtable discussions led by attending faculty members serving as seminar leaders. Course prerequisites: enrollment in Year I of the graduate orthodontics specialty program or with special permission of the course director.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
ORTG 8403. Orthodontic Diagnosis and Treatment Plan Seminar. 2 Credit Hours.
Essentials of orthodontic diagnostic process and treatment planning are discussed in this course. Examples of topics of discussion include cephalometric headfilms and their numerous analyses, treatment timing, surgical orthodontics, interdisciplinary orthodontics, and occlusion and TMJ. The course sessions are conducted as lectures and seminars where students, who have previously read and independently studied the assigned reading materials, will discuss, provide summary statements, critical analysis, and answers to questions in roundtable discussions led by attending faculty members serving as seminar leaders. Every attending will have his/her own treatment philosophy. The student is expected to utilize the information gained in this course for clinical activities. Course prerequisites: enrollment in Year I of the graduate orthodontic specialty program or with special permission of the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ORTG 8404. Orthodontic Biomechanics. 2 Credit Hours.
Biology and engineering mechanics of orthodontic and orthopedic forces applied to human orofacial structures. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ORTG 8405. Dysmorphology. 1 Credit Hour.
Study of biologic basis, classification, and management of human craniofacial anomalies and syndromes, with emphasis on cleft lip and palate. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ORTG 8406. Teaching Principles. 2 Credit Hours.
In this course the student is exposed to teaching and mentoring activities. Teaching and mentoring activities take place in the predoctoral and postdoctoral facilities. The graduate program is heavily dependent on the big brother/sister system. In the predoctoral clinic the resident will serve as the instructor. In the graduate program, the student will mentor the little brother/sister for diagnosis, treatment planning, paperwork, patient management, and the like. Course prerequisites: enrollment in the graduate orthodontic specialty program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ORTG 8407. History of Orthodontics. 1 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ORTG 8408. Craniofacial Cephalometrics. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ORTG 8410. Current Literature Review. 1 Credit Hour.
Critical review of selected recent basic science and clinical research papers in orthodontics and craniofacial biology. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

ORTG 8413. Operations Management for Orthodontic Practice I. 0 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

ORTG 8414. Growth and Development of the Craniofacial Complex. 2 Credit Hours.
Fundamental biological and genetic mechanisms of normal human craniofacial growth and development, including neural crest contributions, epithelial-mesenchymal interactions, postnatal craniofacial development, and somatic growth in children.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.
ORTG 8416. Clinical Biomechanics. 1 Credit Hour.
The Clinical Biomechanics course is a seminar and independent study course providing an evidence-based, in-depth, review of the scientific literature on the mechanical and biological reactions of craniofacial structures to applied orthodontic and orthopedic forces. Also taught is the design of orthodontic appliances and treatment strategy based on these concepts. This course is built upon the material in the Biomechanics course (8404) where the reactions created by orthodontic and orthopedic forces are presented. Students will learn these at the level of a specialist. The course sessions are conducted as lectures and seminars where students, who have previously read and independently studied the assigned reading materials, will discuss, provide summary statements, critical analysis, and answers to questions in roundtable discussions led by attending faculty members serving as seminar leaders. Additionally, students will make formal presentations based on an assigned independent study related to orthodontics, its mechanics, and practice. Course prerequisites: enrollment in Year I of the graduate orthodontics specialty program or with special permission of the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ORTG 8417. Introduction to Basic Principles of Orthodontics (Lab). 2 Credit Hours.
Introduction to basic principles of orthodontics lab such as introduction to brackets and wires, appliance placement procedures, impression and study model preparation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ORTG 8418. Introduction to Basic Principles of Orthodontics (Seminar). 3 Credit Hours.
Introduction to basic principles of orthodontics such as department forms and procedures (clinical exam and techniques), basic definitions, clinical photography, AxiUm training, including billing, Dolphin Imaging.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ORTG 8419. Orthodontic Principles and Techniques. 1 to 4 Credit Hour.
Lecture seminar sequence dealing with the interpretation and application of orthodontic principles of the ethics and concepts. Pertinent literature, research findings, and current orthodontic theory are analyzed in depth.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ORTG 8420. Orthognathic Surgery Seminar. 1 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ORTG 8421. 3-D Imaging and Computer Generated Orthodontics. 2 Credit Hours.
Provides orthodontic residents with an introductory overview of various computer generated 3-D ortho appliances to include but not limited to: invisalign, suesmile, surgical treatment planning and indirect bonding.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ORTG 8422. Advanced Orthodontic Principles and Techniques. 1 to 6 Credit Hour.
Advanced lecture seminar sequence dealing with interpretation and application of orthodontic principles of the ethics and concepts. Pertinent literature, research findings, and current orthodontic theory are analyzed in depth.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
ORTG 8423. Progress Conference and Case Review. 1 to 6 Credit Hour.
Advanced lecture seminar sequence dealing with interpretation and application of orthodontic principles of the ethics and concepts. Pertinent literature, research findings, and current orthodontic theory are analyzed in depth. Progress of orthodontic cases reviewed and answers to questions in roundtable discussions led by attending faculty members serving as seminar leaders. Everyone attending will have his/her own treatment philosophy. The student is expected to utilize the information gained in this course for clinical activities.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

ORTG 8424. Biology of Tooth Movement. 2 Credit Hours.
This course will cover the histologic, cellular and molecular basis for orthodontic tooth movement, root resorption, and dentofacial orthopedics using historic and current findings in general bone biology, orthopedics and orthodontics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ORTG 8425. Classic Literature Review. 1 to 6 Credit Hour.
In this course residents are assigned articles to review from orthodontic journals from the recommended reading list from the American Board of Orthodontics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ORTG 8426. Multidisciplinary and Adult Orthodontics. 2 Credit Hours.
This course reviews the combined orthodontic, periodontic, restorative and psycho social need of the adult patient for comprehensive care.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ORTG 8427. American Board of Orthodontics Preparation Course. 1 to 6 Credit Hour.
Review selected topics in preparation for the ABO written exam. This includes review of biology of tooth movement, head and neck anatomy, biomechanics, etc.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ORTG 8428. ABO Mock Boards. 1 Credit Hour.
This course provides the resident with a comprehensive way to evaluate the outcomes of their diagnosis, treatment plan and actual treatment of 6 patients they completed. This also prepares them for the clinical portion of the ABO clinical exam.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ORTG 8429. Clinical Biomechanics. 1 Credit Hour.
This course reviews the basic principles of biomechanics and their use in actual clinical situations. Different appliances and materials are discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ORTG 8430. Advance Orthodontic Principles and Techniques. 2 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.
ORTG 8431. Thesis; Scientific Writing and Preparation Course. 1 to 6 Credit Hour.

In this course essentials of scientific writing are taught. Topics such as organization of thesis, or writing of scientific articles, and the nature of different sections are covered. Emphasis is given to presentation techniques of the written material, avoidance of jargon, proper grammar, and the like, concepts. The student gains experience in reviewing manuscripts submitted to the journal. It includes discussions of essential literature on the nature of science and its reporting. The course sessions are conducted as lectures and seminars where students, who have previously read and independently studied the assigned reading materials, will discuss and provide summary statements, critical analysis, and answers to questions in roundtable discussions led by attending faculty members serving as seminar leaders. Course prerequisites: enrollment in year 1 of the graduate orthodontics specialty program or with special permission of the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ORTG 8487. Critical Elements in Clinical Orthodontics. 1 Credit Hour.

This course discusses the fine points of clinical decision making process. Also taught is the ethics of orthodontic specialty and most current innovations in clinical orthodontics. Students will learn the fine points of orthodontic treatment practice through formal case presentations and discussions. Ethics of orthodontic practice are taught with the aid of educational material produced by the American Association of Orthodontists. Course prerequisites: enrollment in Year 2 of the graduate orthodontics specialty program or with special permission of the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ORTG 8510. Interdisciplinary Orthodontic Treatment Seminar. 1 Credit Hour.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ORTG 8513. Operations Management for Orthodontic Practice II. 2 Credit Hours.

This course is designed to introduce the student to various ways to start practicing. Intellectual property laws, cost of money, building of a new office, buying of existing practice or the process of hiring, marketing, and the like topics are covered. The course sessions are conducted as lectures and seminars where students, who have previously read and independently studied the assigned reading materials, will discuss, provide summary statements, critical analysis, and answers to questions in roundtable discussions led by attending faculty members serving as seminar leaders. Course prerequisites: enrollment in Year 2 of the graduate orthodontics specialty program or with special permission of the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ORTG 8515. Growth and Development II. 2 Credit Hours.

The growth and development of the craniofacial complex is a seminar and independent study course that reviews the evidence-based information at the anatomical and molecular level. Genetic and epigenetic influences are taught at the level of specialist. The course sessions are conducted as lectures and seminars where students, who have previously read and independently studied the assigned reading materials, will discuss, provide summary statements, critical analysis, and answers to questions in roundtable discussions led by attending faculty members serving as seminar leaders. Clinical implications of developmental phenomena are discussed in depth. Course prerequisites: enrollment in Year I of the graduate orthodontics specialty program or with special permission of the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ORTG 9487. Dento-Facial Anomalies Conference. 1 Credit Hour.

The student is exposed to grand rounds presentations that are conducted jointly by the Kornberg orthodontics and Jefferson surgeons. Students will actively participate to present or discuss the jointly treated cases. In addition, students will make presentations on the topics that are assigned. The focus of the course is management of patients between the two specialties. This is course also includes rotations through the operating rooms at Jefferson University. Additionally, the student will participate in a TMJ dissection course at Jefferson. Course prerequisites: enrollment in the graduate orthodontics specialty program or with special permission of the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
ORTG 9489. Extracurricular Education. 2 Credit Hours.
This activity requires attendance to approved regional or national meetings and conferences. The principal purpose of this course is to expose the student, in an unbiased format, to novel arguments, instruments, equipment, and services in the orthodontic industry. Students will be assigned selected topics to investigate at the meetings they attend. Upon their return, the graduate students will prepare a talk with the aid of PowerPoint presentations to highlight the pertinent areas of the meeting and their interpretation of the knowledge introduced at the meeting. The quality, appropriateness, and pertinence of these presentations will be judged. Course prerequisites: enrollment in Year 1 of the graduate orthodontics specialty program or with special permission of the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ORTG 9587. Graduate Orthodontic Clinic. 1 to 12 Credit Hour.
This course is treatment of patients in the clinic. The student is expected to demonstrate graduate level mastery of orthodontic diagnosis; treatment skills and management of patients. As the student enters the program s/he is assigned a group of patients. From that pool the student will start a specified number of patients. The number of starts may vary from year to year. But the patient load in terms of numbers and complexity must be distributed as evenly as possible, or as specified, among the attendings. The student will experience a plethora of proven-performer appliances and techniques. Course prerequisites: enrollment in the graduate orthodontic specialty program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ORTG 9588. Graduate Orthodontic Screening Clinic. 1 to 12 Credit Hour.
In this course the student is exposed to teaching and mentoring activities. Teaching and mentoring activities take place in the predoctoral and postdoctoral facilities. The graduate program is heavily dependent on the big brother/sister system. In the predoctoral clinic the resident will serve as the instructor. In the graduate program, the student will mentor the little brother/sister for diagnosis, treatment planning, paperwork, patient management, and the like.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ORTG 9589. Tweed Course. 2 Credit Hours.
The student will attend the Tweed Foundation Course in Tucson, AZ for a two-week period. This course is designed to teach the basics of wire bending and to introduce the student to basics of Tweed diagnostic and treatment philosophy. The course consists of typodont work and lectures. The cost of the course will be borne by the student. US citizens may be qualified for a loan from the Foundation to cover the tuition and travel-related expenses.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ORTG 9991. Orthodontic Thesis Studies. 1 Credit Hour.
Mentor-directed activities on preparation of orthodontic research protocols and thesis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ORTG 9996. Orthodontic Thesis Research. 4 Credit Hours.
Mentor-directed conduct of a basic science and/or clinical research project in orthodontics. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Graduate Periodontics (PERG)
Courses

PERG 8300. Periodontal Case Presentations. 2 Credit Hours.
This course focuses on presentations of documented clinical periodontal patient cases for analysis and critical discussion of diagnosis, treatment and outcomes. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PERG 8301. Introduction to Postgraduate Periodontology. 2 Credit Hours.
An orientation course including overview of clinical periodontology, periodontal anatomy and pathogenesis, clinical methods, photography and record keeping.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PERG 8302. Biology and Pathology of the Periodontium. 2 Credit Hours.
Seminars reviewing the scientific literature on development, morphology, and physiology of periodontal tissues; histopathology of periodontal diseases; and current concepts on mechanisms of periodontal tissue destruction and repair. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PERG 8305. Combined Spec Treat Plan. 2 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PERG 8306. Introduction to Oral Implantology. 1 Credit Hour.
Biologic basis for dental implants, including implant biomaterials and bioengineering, biology of bone healing, osseointegration, prosthetic and surgical considerations, implant maintenance, and etiology and management of implant complications.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PERG 8307. Advanced Periodontal Microbiology and Immunology. 1 Credit Hour.
Basic biology, methods of identification, pathogenic mechanisms, host inflammatory and immunological responses, and therapeutic implications of bacteria, yeasts, and viruses implicated as putative pathogens in human periodontal diseases.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PERG 8308. Treat/Plan Dental Implan. 1 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PERG 8309. Clinical Oral Implantology. 2 Credit Hours.
This course focuses on clinical training to competency in treatment planning, surgical placement, and maintenance of endosseous dental implants. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PERG 8310. Classic Periodontal Literature Review. 2 Credit Hours.
Critical review of selected classical basic science and clinical research papers pertinent to periodontology. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
PERG 8313. Conscious Sedation. 2 Credit Hours.
Didactic and clinical training to provide training for the resident in the methods of pain and anxiety control to achieve in-depth knowledge in all areas of conscious sedation, and proficiency in more than one method of conscious sedation. These methods include nitrous oxide/oxygen inhalation sedation, oral sedation or intravenous sedation. Course instruction will include a review of human physiology, physical evaluation, treatment of the medically compromised patient and management of medical emergencies. Residents must complete ACLS and provide documentation as part of this course. Upon completion the resident may qualify for conscious sedation permit in Pennsylvania.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PERG 8314. Hospital Dentistry. 2 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PERG 8320. Current Periodontal Literature Review. 1 Credit Hour.
Critical review of selected recent basic science and clinical research review papers pertinent to periodontology. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

PERG 8330. Special Topics in Perio. 2 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

PERG 8340. Oral Implantology Literature Review. 2 Credit Hours.
Study and critical review of basic science and clinical scientific literature on dental implants. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

PERG 8350. Interdisciplinary Comprehensive Dental Treatment Planning Grand Rounds. 2 Credit Hours.
Interdisciplinary treatment planning conference exploring complex patient cases. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

PERG 9385. Clinical Periodontal Practice. 1 to 12 Credit Hour.
Clinical experience and documentation in diagnosis, treatment and prevention of periodontal diseases, and periodontal maintenance care. May be repeated for credit.

Department Restrictions: Must be enrolled in one of the following Departments: Dental:Peridontology.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Periodontics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

PERG 9387. Practice Teaching Periodontology. 2 Credit Hours.
In this course, students gain experience in clinical instruction and patient care supervision in the predoctoral periodontology education program. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

PERG 9487. Oral Pathology Laboratory Rotation. 2 Credit Hours.
Participation and experience in microscopic examination and diagnosis of human oral tissues at the oral and maxillofacial pathology laboratory biopsy service at Temple University Hospital.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.
PERG 9991. Directed Research in Periodontology. 4 Credit Hours.
Development and conduct of a basic science or clinical research project or literature review pertinent to periodontology under faculty mentorship. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Graphic Arts and Design (GAD)

Courses

GAD 5000. Graduate Design: Special Topics. 3 Credit Hours.
Graduate Level course focuses on topics in design not covered in the regular course offerings. Topics may include, but are not limited to, Environmental Design and Signage, Type Design, Promotion Design, etc. Classroom instruction and assignments will include projects appropriate to the specific topic being offered. Graduate students will need to keep a portfolio of work that is annotated, summarizing their learning and how they expect it to be applied in future courses. NOTE: This course is open to Graphic and Interactive Design MFA students only.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

GAD 5001. Graduate Design: Design Workshop. 3 Credit Hours.
Students work on projects for the Tyler Design Incubator. This includes project development and management, research on topics specific to entrepreneurial design practice, and assigned tasks for Incubator activities and events. Graduate students will need to keep a portfolio of work that is annotated, summarizing their learning and how they expect it to be applied in future courses. NOTE: This course is open to Graphic and Interactive Design MFA students only.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

GAD 5002. Graduate Design: Hybrid Design. 3 Credit Hours.
Students work on large assignments that have components in both print and interactive media. Instruction in the advanced use of software applications for print and/or interactive media is a significant part of the course. Graduate students will need to keep a portfolio of work that is annotated, summarizing their learning and how they expect it to be applied in future courses. NOTE: This course is open to Graphic and Interactive Design MFA students only.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

GAD 5003. Graduate Design: Art Direction. 3 Credit Hours.
This course focuses on concept development with an emphasis on image making and image editing in a variety of forms including book publishing, advertising and signage. Graduate students will need to keep a portfolio of work that is annotated, summarizing their learning and how they expect it to be applied in future courses. NOTE: This course is open to Graphic and Interactive Design MFA students only.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.
GAD 5004. Graduate Design: Packaging. 3 Credit Hours.
This course focuses on package design for a variety of products. Students work with concept, surface design, typography, materials and the physical construction of three-dimensional forms. Graduate students will need to keep a portfolio of work that is annotated, summarizing their learning and how they expect it to be applied in future courses. NOTE: This course is open to Graphic and Interactive Design MFA students only.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**Degree Restrictions:** Must be enrolled in one of the following Degrees: Master of Fine Arts.
**College Restrictions:** Must be enrolled in one of the following Colleges: Art, Tyler School.

**Repeatability:** This course may be repeated for additional credit.

GAD 5005. Graduate Design: Publishing. 3 Credit Hours.
Students work on large-scale publications with a strong emphasis on the development of typographic formats and the inventive use of illustration and/or photographic imagery to create periodicals and/or books that are functional, conceptually sophisticated and visually distinctive. Graduate students will need to keep a portfolio of work that is annotated, summarizing their learning and how they expect it to be applied in future courses. NOTE: This course is open to Graphic and Interactive Design MFA students only.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**Degree Restrictions:** Must be enrolled in one of the following Degrees: Master of Fine Arts.
**College Restrictions:** Must be enrolled in one of the following Colleges: Art, Tyler School.

**Repeatability:** This course may be repeated for additional credit.

GAD 5006. Graduate Design: Corporate. 3 Credit Hours.
In this course students develop two large scale identities that include logo design, stationery and collateral materials in a variety of forms that can include booklets, brochures, posters, advertising, signage and/or packaging. Graduate students will need to keep a portfolio of work that is annotated, summarizing their learning and how they expect it to be applied in future courses. NOTE: This course is open to Graphic and Interactive Design MFA students only.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**Degree Restrictions:** Must be enrolled in one of the following Degrees: Master of Fine Arts.
**College Restrictions:** Must be enrolled in one of the following Colleges: Art, Tyler School.

**Repeatability:** This course may be repeated for additional credit.

GAD 5007. Graduate Design: Interactive. 3 Credit Hours.
The focus of this course is interactive design for a large-scale website. This project will involve in-depth exploration of interface design, navigation, audio, digital animation and organization of information. Includes instruction in intermediate through advanced programming skills and the use of video composition. A strong grasp of the fundamentals of interactive design is required. Graduate students will need to keep a portfolio of work that is annotated, summarizing their learning and how they expect it to be applied in future courses. NOTE: This course is open to Graphic and Interactive Design MFA students only.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**Degree Restrictions:** Must be enrolled in one of the following Degrees: Master of Fine Arts.
**College Restrictions:** Must be enrolled in one of the following Colleges: Art, Tyler School.

**Repeatability:** This course may be repeated for additional credit.

GAD 5008. Graduate Design: Authorship. 3 Credit Hours.
This course encourages students to express perceptions and positions on current issues and events through large-scale projects. Parameters of assignments are generated by individual approaches, challenging each student to engage in decision making to develop unique content and form. The work from this class expands the boundaries of the design discipline beyond traditional client-based practice. Graduate students will need to keep a portfolio of work that is annotated, summarizing their learning and how they expect it to be applied in future courses. NOTE: This course is open to Graphic and Interactive Design MFA students only.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**Degree Restrictions:** Must be enrolled in one of the following Degrees: Master of Fine Arts.
**College Restrictions:** Must be enrolled in one of the following Colleges: Art, Tyler School.

**Repeatability:** This course may be repeated for additional credit.
GAD 5010. Graduate Design: Special Topics. 3 Credit Hours.
Graduate Level course focuses on topics in design not covered in the regular course offerings. Topics may include, but are not limited to, Environmental Design and Signage, Type Design, Promotion Design, etc. Classroom instruction and assignments will include projects appropriate to the specific topic being offered. Graduate students will need to keep a portfolio of work that is annotated, summarizing their learning and how they expect it to be applied in future courses. NOTE: This course is open to Graphic and Interactive Design MFA students only.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

GAD 5011. Graduate Design: Design for the Public Good. 3 Credit Hours.
Students work on a wide variety of projects for arts and educational groups, social welfare and environmental organizations, and other clients in the nonprofit sector. Projects done in the class will actually be produced — either in print or, in the case of web sites, posted online. Students will be responsible for production preparation and supervision for course projects which could include identities, brochures, posters, invitations, and advertising campaigns. Graduate students in this course will also be expected to lead presentations to the clients and disseminate client feedback to the undergraduates. NOTE: This course is open to Graphic and Interactive Design MFA students only.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

GAD 5013. Advanced Typography. 3 Credit Hours.
Graduate Level course focuses on advanced applications of typography in design. Projects include logo design, book covers, posters, brochures and/or catalogues. Graduate students will need to keep a portfolio of work that is annotated, summarizing their learning and how they expect it to be applied in future courses. NOTE: This course is open to Graphic and Interactive Design MFA students only.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

GAD 5015. Advanced Typography. 3 Credit Hours.
Graduate Level course focuses on advanced applications of typography in design. Projects include logo design, book covers, posters, brochures and/or catalogues. Graduate students will need to keep a portfolio of work that is annotated, summarizing their learning and how they expect it to be applied in future courses. NOTE: This course is open to Graphic and Interactive Design MFA students only.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

GAD 5023. Interactive Design. 3 Credit Hours.
This course focuses on design for web and motion graphics. A good working knowledge of Adobe Photoshop and Illustrator (Mac Platform) is necessary. Flash and After Effects will be explored from basic to intermediate levels. While staying current with the latest technologies, the emphasis will be on design for communication through interactive media. Graduate students will need to keep a portfolio of work that is annotated, summarizing their learning and how they expect it to be applied in future courses. NOTE: This course is open to Graphic and Interactive Design MFA students only.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.
GAD 5025. Interactive Design. 3 Credit Hours.
Graduate Level course focuses on design for web and motion graphics. A good working knowledge of Adobe Photoshop and Illustrator (Mac Platform) is necessary. Flash and After Effects will be explored from basic to intermediate levels. While staying current with the latest technologies, the emphasis will be on design for communication through interactive media. Graduate students will need to keep a portfolio of work that is annotated, summarizing their learning and how they expect it to be applied in future courses. NOTE: This course is open to Graphic and Interactive Design MFA students only.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

GAD 5027. Digital Narratives. 3 Credit Hours.
Graduate Level course focuses on the creation of a short digital animation/movie based on a supplied narrative. Strong conceptual and technical skills as well as a solid grasp of typography will be necessary for this course. Students will learn one vector based and one video based application to create this design. This course is not cell based animation. Graduate students will need to keep a portfolio of work that is annotated, summarizing their learning and how they expect it to be applied in future courses. NOTE: This course is open to Graphic and Interactive Design MFA students only.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

GAD 5029. Programming and Production for Web Sites. 3 Credit Hours.
Graduate Level course focuses on the technical production and programming aspects of producing a fully functioning web site. Topics covered will be the best-practices use of Dreamweaver for site production with an emphasis on CSS, HTML and Javascript programming languages. Students will also be introduced to the fundamentals of the ActionScript language. Students will cover the process of creating a web site and its many considerations such as flowcharts, sitemaps, and wireframes. Students will be introduced to fundamentals of information architecture and search engine optimization (SEO) for use within their site and discuss best-practices for uploading and maintaining their final site. Graduate students will need to keep a portfolio of work that is annotated, summarizing their learning and how they expect it to be applied in future courses. NOTE: This course is open to Graphic and Interactive Design MFA students only.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

GAD 5053. Art Careers Promotion. 3 Credit Hours.
Graduate Level Course offers instruction in the design and content of materials needed by fine artist in professional practice. This course will cover a number of topics including resume content and design, stationery packages for business communication (cover letters, professional inquiries, etc.), presentation formats for print and web. NOTE: Open to all studio majors to include: GAD, PDS, Crafts, Art & Art Education.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may not be repeated for additional credits.

GAD 5073. Introduction to Web Design. 3 Credit Hours.
Graduate Level course instructs students in the fundamentals of interactive design with a focus on the use of interactive software, layout, typography, hierarchy and organization. Basic working knowledge of Adobe Photoshop and Illustrator required (MAC platform). Students will be tested for basic competency in these programs on the first day of class.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
GAD 5078. The Art of Infographics. 3 Credit Hours.
This course is an introduction to data visualization and infographic design. It explores the history of data visualization and infographic design, from cave paintings to contemporary design, covering static, animated and interactive solutions. Lectures on visual literacy and graphic design foundations will help the students develop the vocabulary necessary to critically analyze contemporary infographics. Students receive basic instruction in the creation of infographics and develop their own infographic utilizing supplied data. This course will include readings from Edward Tufte's "The Visual Display of Quantitative Information" and other texts. Tutorials in Excel and Illustrator may also be used for outside software instruction.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

GAD 5111. Graduate Design: Illustration. 3 Credit Hours.
Assignments focus on image-making for communication. Strong concepts, the development of a personal visual approach or style and professional process will be the focus of this course. Graduate students will need to research and present a topic related to contemporary illustration in class to the undergraduates. NOTE: This course is open to Graphic and Interactive Design MFA students only.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

GAD 5182. Independent Study. 1 to 3 Credit Hour.
Graduate Level course where the proposal for a large-scale independent project must be approved by a faculty member who agrees to oversee the project prior to registration for the course. The proposal must relate to authorship and/or entrepreneurship and have the breadth and depth of a semester long graduate project.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

GAD 8001. Visual Design Graduate Seminar. 3 Credit Hours.
Graduate projects in graphic design authorship. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

GAD 8002. Visual Design Graduate Seminar II. 3 Credit Hours.
Graduate projects in graphic design authorship. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

GAD 8083. Graphic Design Graduate Projects. 3 Credit Hours.
Graduate projects in graphic design authorship. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

GAD 8084. Graphic Design Graduate Projects II. 3 Credit Hours.
Graduate projects in graphic design authorship. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.
GAD 8095. Visual Design Thesis. 3 Credit Hours.
Thesis project representing comprehensive original research in an area of specific interest for the degree candidate. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

GAD 8096. Visual Design Thesis II. 3 Credit Hours.
Thesis project representing comprehensive original research in an area of specific interest for the degree candidate. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

GAD 8111. Graduate Seminar in Printmaking. 3 Credit Hours.
Philosophy and theory of contemporary printmaking practices. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

GAD 8112. Graduate Seminar in Printmaking II. 3 Credit Hours.
Philosophy and theory of contemporary printmaking practices. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

GAD 8183. Graduate Projects in Printmaking. 3 to 12 Credit Hours.
Individual conferences and group seminars. Emphasis on diversity of command in several printmaking media. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

GAD 8184. Graduate Projects in Printmaking II. 3 to 12 Credit Hours.
Individual conferences and group seminars. Emphasis on diversity of command in several printmaking media. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

GAD 8189. Collaborative Design Workshop in Rome. 3 Credit Hours.
The six week course is geared toward design students interested in immersing themselves in the culture of Italy and producing, by the end of the workshop, a printed project about design, art, and culture in Rome. Students will have a choice of topics to research, design, and produce. Among the many topics that students could focus on are Roman decorative arts, cuisine, theatre, architecture, fashion, music, and film. Students will also be encouraged to study how the Italian design aesthetic and philosophy might be applied to their own work. An integral part of this project will be both digital and traditional image making. Students will photograph and/or illustrate an article that will be incorporated into the final collaboratively produced printed piece. Note: Open to majors in the following disciplines - Graphic and Interactive Design, Photography, Illustration, Fashion Design, Interior Design, Industrial Design, Landscape Architecture, Architecture, Journalism, Advertising.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.
GAD 8201. Digital Projects. 3 Credit Hours.
The emphasis of this course will be on creating a professional digital portfolio. Throughout the semester, students will learn a series of multimedia software applications and develop interactive presentations that will promote themselves as artists with contemporary and professional portfolios. Note: The course is limited to seniors and graduate students.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**College Restrictions:** Must be enrolled in one of the following Colleges: Art, Tyler School.

**Repeatability:** This course may be repeated for additional credit.

GAD 8211. Graduate Seminar in Photography. 3 Credit Hours.
A seminar emphasizing individual research and group discussion of contemporary issues in photography. Note: This course can only be taken twice for credit.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**College Restrictions:** Must be enrolled in one of the following Colleges: Art, Tyler School.

**Repeatability:** This course may be repeated for additional credit.

GAD 8212. Graduate Seminar in Photography II. 3 Credit Hours.
A seminar emphasizing individual research and group discussion of contemporary issues in photography. Note: This course can only be taken twice for credit.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**College Restrictions:** Must be enrolled in one of the following Colleges: Art, Tyler School.

**Repeatability:** This course may be repeated for additional credit.

GAD 8222. Contemporary Photography. 3 Credit Hours.
We live in an extraordinary moment in the history of photography, a moment much hoped for and anticipated by many champions of the medium. Finally one can say without qualification that photography is a medium fully embraced by the contemporary art world. While there has always been a movement to look at and discuss photography as art, photography has never played a more central, critical and vital role in contemporary art then it does now. This course will look at both the role that photography plays in contemporary art and the role that contemporary art plays in photography. By surveying contemporary trends in photography, students in this class will develop an understanding of what exactly photography is now. At the same time the class will attempt to answer questions about what it means to be contemporary, about what the relationship between the contemporary and the historical is, and why this might be important. Through these problems students will be encouraged to develop personal work that addresses themes and ideas discussed in the class. Note: Open to Junior/Seniors. Special authorization required for non-majors.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**College Restrictions:** Must be enrolled in one of the following Colleges: Art, Tyler School.

**Repeatability:** This course may be repeated for additional credit.

GAD 8253. Graduate Photo Process Workshop. 3 Credit Hours.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**College Restrictions:** Must be enrolled in one of the following Colleges: Art, Tyler School.

**Repeatability:** This course may be repeated for additional credit.

GAD 8255. Graduate Photo Workshop: Digital Photography. 3 Credit Hours.
State of the art technology merges with new issues related to digital imaging.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**College Restrictions:** Must be enrolled in one of the following Colleges: Art, Tyler School.

**Repeatability:** This course may be repeated for additional credit.
GAD 8256. Graduate Advanced Photo Workshop. 3 Credit Hours.
Photography and new applications.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

GAD 8283. Graduate Projects in Photography I. 1 to 12 Credit Hour.
Individual conferences and group seminars. Emphasis on mastery of conceptual and technical practices with lens-based media.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

GAD 8284. Graduate Projects in Photography II. 1 to 12 Credit Hour.
Individual conferences and group seminars. Emphasis on mastery of conceptual and technical practices with lens-based media.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

GAD 8413. Photographic Lighting. 3 Credit Hours.
At the core of any commercial or fine art photographer’s practice is an in-depth understanding of lighting. Light is the fundamental element that makes a photograph possible, and every successful photographer’s control over light is the key to their success. This course will not only focus on allowing you to gain a thorough understanding of artificial lighting techniques, but also how to approach natural light situations better, and beyond that, to an understanding of how the two work in conjunction. By revisiting the fundamentals of the large format view camera, and developing an understanding of environmental and situational lighting techniques, you will learn different commercial and fine art approaches to working in a studio setting. You will also learn lighting techniques with digital and medium formats, as well as develop an understanding regarding the differences between digital capture and negative film. In addition this course will cover advanced exposure control, lighting on location, and product lighting. Note: This course is repeatable for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

GAD 9189. Design Workshop in Japan. 3 Credit Hours.
The six week course is geared toward graphic design students interested in immersing themselves in the culture of Japan and producing a design project about this experience. Students will have a choice of projects to design and produce. They will be encouraged to study how Japanese design aesthetic and philosophies might be applied to their own work. Note: A basic knowledge of design industry-standard print software is required for this course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

Health Information Management (HIM)

Courses

HIM 5101. Fundamentals of Health Informatics. 3 Credit Hours.
This course provides an introduction to the history, reasoning, and development of systems focused on the generation, aggregation, and analysis of health data. Students will gain exposure to usability requirements - elements of design which impact selection - in addition to the issues impacting data liquidity in the healthcare system. The course will also consider the various types of health information systems that exist in organizations and serve as feeders to clinical repositories of information.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
HIM 5106. Technology for Population Health. 3 Credit Hours.

Individuals and organizations are increasingly dependent on technology for the creation of information relevant to health status. Technology is being utilized to monitor health or social behavior or provide interventions in the form of information, alerts, or the provision of information to advanced health practitioners. This course is intended to provide students an opportunity to assess existing and emerging technologies as they relate to the delivery of healthcare or the maintenance of health status.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIM 5111. Technology for Healthcare Financial Management. 3 Credit Hours.

This course examines the nexus of value based care, financial management, and healthcare payment. Students examine complex financial systems and explore the principles of payment as they apply to various types of health care settings. This course focuses on payment policy and reporting requirements, and the students become familiar with topics such as fraud and abuse, revenue cycle management, integration of clinical and financial systems, charge master data, and managerial implications of alternative payment models.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIM 5112. Health Information Systems: Design and Decision Making. 3 Credit Hours.

This course provides an introduction to the effective management of health informatics systems. Students will gain an understanding of the technical foundations required for the successful management of health informatics systems and the impact of adopting initiatives relative to an organization’s operational and strategic goals. Students gain an exposure to industry benchmarking and appropriately valuing technology in healthcare. Topics related to the use of IT as a strategic resource, forming strategic health IT plans, the importance of stakeholders in health IT programs, and emerging healthcare technologies are explored.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIM 5113. Database Administration for Health Informatics Professionals. 3 Credit Hours.

Modern life science organizations rely on databases for transaction management, data analysis, outcomes assessment, and to satisfy the internal needs of the organization as well as to satisfy regulatory, legal, and accrediting bodies. The goal of the course is to provide hands-on use of database management tools promoting a strong understanding of database design, data modeling and structured query language for data definition and data manipulation, and data analysis tools including pivot tables. In addition, the course will explore operational database systems versus analytic systems, the importance of database design on data integrity, data warehousing, and data mining at modern health science organizations. Data formats, collection, and integrity as they relate to continual performance improvement, with specific attention to practitioner performance, are also stressed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIM 5114. Health Informatics Project Management. 3 Credit Hours.

The development of interoperable electronic health record systems has resulted in increased systems integration, convergence, and complexity. Nearly half of all IT projects fail to meet budget, schedule, and functionality. The course provides a hands-on approach to systems analysis and management of health informatics (HI) projects. Students will be introduced to the concepts of managing HI projects by focusing on initiating, planning, executing, controlling, and closing projects in the context of topics such as integration, scope, timing, cost, quality, human resource, technology, communications, and risk and procurement. Students will also be provided an opportunity to analyze functional requirements for HI projects using a variety of process modeling approaches.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIM 5127. Privacy and Security: Protecting Healthcare Data. 3 Credit Hours.

This course focuses on privacy and confidentiality and current legislative and health policy issues for electronic health record systems (EHRs). Ethical issues related to EHRs and advocacy of patients’ and consumers’ needs are explored. The course provides students with an understanding of regulatory requirements related to the protection of health information and introduces technical approaches to ensure compliance.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
HIM 5128. Health Data: Standards and Interoperability. 3 Credit Hours.
This course provides an introduction to the principles of healthcare interoperability and provides foundation in healthcare standardization related to: privacy, security, clinical vocabularies, data messaging, architectural framework, data content, and the meaningful use of electronic health record systems (EHRs). The course explores the role of healthcare standards in supporting interoperability, patient care, research, and the practice of evidence-based medicine. National and international standards development efforts are also discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIM 5129. Health Data Analysis. 3 Credit Hours.
Healthcare delivery systems require capabilities to effectively generate, aggregate, and analyze data relevant to the optimal delivery of healthcare and maintenance of health. This course is intended to build on the competencies gained in previous courses surrounding the creation, structure and maintenance of clinical datasets, patient generated health data, and elements of the digital medical record. The course is designed to embrace team based approaches to solving complex issues in the healthcare delivery system. Students will use data visualization tools paired with quantitative data driven techniques which aid in addressing the challenges in the Triple Aim in healthcare. This course will enable the student to build a basic working knowledge of data analysis, dash boarding, and clinical intelligence platforms using appropriate methodologies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
HIM 8013|Minimum Grade of B-|May not be taken concurrently.

HIM 9082. Independent Study in Health Informatics. 1 to 3 Credit Hour.
This course provides students the opportunity to work independently under the direction of a faculty advisor to gain a deeper understanding of an area in Health Informatics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HIM 9995. Capstone Project. 3 Credit Hours.
The capstone course is the culminating class for students in the Health Informatics program. Students will create strategies and approaches that focus on various disciplines of health informatics such as topics relating to the Electronic Health Record, Health Information Exchange, Meaningful Use, and Ethical/Legal issues. In addition, students will analyze systems and evaluate potential decisions from the persona of senior level healthcare executives.

Department Restrictions: Must be enrolled in one of the following Departments: CPH:Health Serv Admin & Policy.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Health Informatics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Science.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(HIM 8001|Minimum Grade of B-|May not be taken concurrently
OR HIM 5101|Minimum Grade of B-|May not be taken concurrently)
AND (HIM 8013|Minimum Grade of B-|May not be taken concurrently
OR HIM 5113|Minimum Grade of B-|May not be taken concurrently)
AND (HIM 8030|Minimum Grade of B-|May be taken concurrently
OR HIM 5130|Minimum Grade of B-|May be taken concurrently)
AND (HIM 8027|Minimum Grade of B-|May be taken concurrently
OR HIM 5127|Minimum Grade of B-|May be taken concurrently)
AND (HIM 8028|Minimum Grade of B-|May be taken concurrently
OR HIM 5128|Minimum Grade of B-|May be taken concurrently)
AND (HIM 5006|Minimum Grade of B-|May not be taken concurrently)

Health Policy and Management (HPM)
Courses

HPM 5005. International Health Studies Abroad. 6 Credit Hours.
Students learn to articulate a historical and cultural understanding of the Costa Rican approach to health and medical care, to identify the major health concerns of the Costa Rican population in rural and urban settings and the major strides taken to improve health, to conduct limited fieldwork with rural communities in teams of 3 to 4 persons or conduct community health field research among the graduate students, and to write a professional paper and presentation on one of the health issues in Costa Rica based on their experience there. While previous Spanish language proficiency is not required, some Spanish language ability is essential for students to gain the maximum understanding during the program. Therefore, students during the first two weeks of the program take intensive Spanish language training in Costa Rica at the Institute for Central American Development Studies (ICADS). The third week involves travel to other regions within Costa Rica to examine different health conditions depending on the year's topics. During the fourth and fifth weeks, students live and work in rural communities and help to facilitate health education workshops on different activities such as: diabetes, nutrition, HIV/AIDS prevention education, women's health, child health care issues, first aid education, fitness and exercise, and backyard gardening.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HPM 5006. Political and Economic Aspects of Health. 3 Credit Hours.
The course provides an introduction to the structure and delivery of healthcare in the United States, as well as an introduction to health policymaking. In addition to required reading materials, students will be asked to examine current health policies at the local, state, and/or national level.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HPM 5007. Principles of Emergency Management. 3 Credit Hours.
This course is designed to introduce students to the concepts and models of public health preparedness and response for all hazards emergency management. It will enable health care and allied health professionals, public health professionals, and emergency responders to work together to plan and respond effectively to both natural and man made disasters. The course will introduce students to the identified core competencies of emergency health preparedness for public health professionals, which include functional roles, communication, resource identification, problem-solving, and evaluation. The issues of mental health and special populations will be introduced in an emergency management context. Students will utilize problem-based learning by analyzing actual disaster events and applying the theories, principles, and practice of preparedness, response, mitigation, and recovery.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HPM 5008. Seminar in Global Health. 3 Credit Hours.
This course focuses on the major factors influencing global health issues and the interdependence of the industrialized and developing world in addressing health problems from a global perspective. Commonality and differences in disease burden between the two will be emphasized. Students will also be aware of many of the major health issues affecting developing countries and the opportunities and problems that may be encountered in various health-related endeavors. Health system policy responses will also be considered.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HPM 5014. Leadership and Management in Non-Profit Organizations. 3 Credit Hours.
This course covers leadership and management in public health practice. The course will review leadership styles, moving through the “leadership pipeline” to help students understand the basic underpinnings of leadership. Within that context, the course will explore the essentials of applying strong leadership practices in public health organizations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HPM 5016. Public Health Advocacy. 3 Credit Hours.
The purpose of this course is to prepare future public health practitioners with substantive knowledge on how policy is crafted and how to effectively integrate public health science in the policy process, and to provide practical skills on engaging policymakers and public constituencies to support public health initiatives. It will combine policy/advocacy strategy, real-life case studies, lectures by policymakers, and strategic analysis of recent legislative developments in health care. Reading assignments provide background knowledge for class lectures and discussion.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
HPM 5107. Forced Migration and Refugee Health. 3 Credit Hours.
This course uses case studies and research literature to examine the multifaceted causes of complex emergencies and their subsequent impacts on the health of the population, including populations that stay in place, that are internally displaced (IPD), and population movement that crosses international borders (refugees). The policies and practices of the humanitarian response among both governments and non-governmental organizations (NGOs) and their impact on population health will be explored. A framework for three issues that effect population health in complex emergencies will be provided and their consequences and possible interventions iterated. These issues are mental health, gender based violence, and nutrition. Assessment, program implementation, and evaluation will be looked at in the context of the particular barriers and issues found in complex emergency situations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HPM 5111. Community Outreach in Public Health. 3 Credit Hours.
This course is designed to introduce students to the concepts and models of strategic community outreach as it pertains to the special population communities, within the context of emergency management planning, response, and recovery. It will assist health care and allied health professionals, public health professionals, and emergency responders to understand how accessible information and technology is part of the community outreach strategy. Students will utilize problem-based learning by analyzing actual and scenario-based disaster events and applying the theories, principles, and practices of strategic community outreach pertaining to emergency response and recovery. In addition, students will learn about the issues faced by special population communities and how to address these special needs in all hazard response and recovery.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HPM 5122. Healthcare Quality and Safety. 3 Credit Hours.
Quality management and quality improvement is the process undertaken by public health professionals, clinical providers, and other management professionals to identify underlying systemic issues in healthcare delivery impacting patient outcomes. Quality improvement and quality management utilizes data to establish performance standards within the healthcare delivery system. The iterative process of quality improvement includes the identification of pertinent issues, the development or sourcing of measurement tools, the ability to monitor adherence to widely accepted industry norms, and the ability to successfully manage change within an organization.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HPM 5202. Man-Made Disasters: Radiological, Chemical and Biological Terrorism. 3 Credit Hours.
This course is designed to introduce students to the concepts and models of public health preparedness, mitigation, and evaluation in the context of man-made disasters, including radiological, chemical and biological incidents. The course addresses identified core competencies of emergency preparedness for public health professionals that include disaster management, risk assessment, risk communication, governmental resources, functional roles, surveillance, and preparedness evaluation. Man-made disasters are looked at in a historical, environmental, and psychological context in order to elucidate the role of public health in man-made disaster preparedness and evaluation. In addition, the role of cultural competency and the needs of special populations are addressed. Public perception of risk and media views of man-made disasters are explored.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HPM 5500. Seminar in Current Issues in Public Health. 3 Credit Hours.
Seminar topics rotate to address current issues in public health research, policy and practice.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Social Work.

Repeatability: This course may be repeated for additional credit.

HPM 8002. Research Seminar in Public Health. 3 Credit Hours.
This is a research seminar on linkages between theory and research in social and behavioral health studies. It is required for Ph.D. students prior to taking the preliminary examinations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
HPM 8003. Political-Economic Aspects of Public Health. 3 Credit Hours.
Survey of the political and economic aspects of public health systems, practice, research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HPM 8005. Theor Hlth Policy Making. 3 Credit Hours.
The purpose of this course is to introduce students to the primary theoretical frameworks for the development of policy, from agenda setting through decision-making and implementation. In addition to reviewing the theoretical foundations of policymaking, the course will apply the theories to current health policy issues.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HPM 8008. Health Economics. 3 Credit Hours.
This class will promote the understanding of core health economics theory, using research literature and case studies to examine how economic theory has shaped the development and understanding of the healthcare systems and policies in the U.S. A background in economic theory will help students to understand and interpret research based on those theories. Health Economics is intended to promote an understanding of how these theories fit into the formation and changes in our healthcare structure. It will also offer an economic perspective on health behavior, such as how discounting relates to risk behavior and how risk preference relates to insurance purchase.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HPM 8013. Research Methods in Health Policy. 3 Credit Hours.
The purpose of this course is to introduce and engage students in research methods used in health policy research, including both the development of policies and the evaluation of existing policies. The course will cover both qualitative methods such as policy analysis, interviewing, focus groups and content analysis, as well as quantitative methods such as legal mapping studies, secondary data analysis, and some economic evaluations. The course will explain and engage these methodologies, but students are not expected to carry out statistical analysis. Lastly, the course will require students to think about the results generated in such research and effective ways in which to communicate such findings to the appropriate audience. The course is intended for students who will be working on policy research or social science research that may include a policy component. Learning objectives will be met through didactic lecture, a formal policy analysis paper, individual homework assignments, and a final exam.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HPM 8014. Comparative Health Policy. 3 Credit Hours.
Approaches to public health policy are informed and influenced by evidence and experience from across the nation and around the globe. Students will be challenged to think about the social, cultural, political and economic challenges of engaging public health policy to advance population health in an international context.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
HPM 5006|Minimum Grade of B-|May not be taken concurrently
OR PBHL 5006|Minimum Grade of B-|May not be taken concurrently.
HPM 8015. Public Health Policy and Legal Issues. 3 Credit Hours.
This course will introduce public health students to the basic legal principles underlying public health policy and the mechanisms to achieve policy change. The law is a powerful tool to support public health, but government must act within the confines of the Constitution and balance competing rights of individuals and the broader community. The course will explore these relationships in historical and present contexts and examine the differences among federal, state, and local governments' authority to enact public health policy. Students will be able to identify the legal issues that arise when government attempts to regulate risky behavior by individuals or the conduct of companies that produce and market products that create such risks (e.g., tobacco, firearms, and alcohol). The course will evaluate why the law is not uniform depending on the product government seeks to regulate (e.g., food vs. vaccines) and how litigation can effectively change this legal landscape. Any student interested in policy should be familiar with basic legal rules and current debates in regulation and control; this class will provide such insight and equip students to work in any type of policy or advocacy setting.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
HPM 5006|Minimum Grade of B-|May not be taken concurrently
OR PBHL 5006|Minimum Grade of B-|May not be taken concurrently
OR HPM 8003|Minimum Grade of B-|May not be taken concurrently
OR PBHL 8003|Minimum Grade of B-|May not be taken concurrently.

HPM 8112. Public Health Program Evaluation. 3 Credit Hours.
The course concerns research methods and techniques used to evaluate public health programs. Students develop an evaluation design, including defined evaluation questions, study design, specific measures and methods, and human subjects protocols.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HPM 9083. Readings and Conference in Public Health. 1 to 3 Credit Hour.
This is an advanced tutorial in public health with an appropriate faculty member. Note: Registration requires a written contract with the supervising faculty member and approval of the student's advisor and of the Director of Graduate Programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HPM 9189. MPH Capstone Seminar. 3 Credit Hours.
This seminar is required of M.P.H. students during final year of study. The seminar includes integration of coursework and practice skills to develop a fieldwork project or internship in a public health agency.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HPM 9289. MPH Fieldwork I. 3 Credit Hours.
This course entails a fieldwork project or internship in a public health agency. It includes seminars, oral and written reports of progress, and joint supervision by a preceptor and faculty member.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HPM 9389. MPH Fieldwork II. 3 Credit Hours.
This course is an evaluation of the fieldwork project or internship using a full range of research methodologies. Data are collected, analyzed, and reported in a comprehensive final report. Oral and/or poster presentations are presented to public health organizations. The course includes a final oral defense of the project or internship.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
HPM 9991. Independent Project in Environmental Health. 1 to 3 Credit Hour.
Under the direction of an appropriate graduate faculty member, students tie together their coursework in a project that poses a problem, gathers data to help analyze the problem, and provides a solution. Note: Enrollment must be approved by the student's advisor and the Director of Graduate Programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HPM 9994. Preliminary Examinations. 1 Credit Hour.
This course supports preparation for taking the preliminary examinations in the Health Policy and Social and Behavioral Sciences Ph.D. programs. To enroll, students must have completed all required coursework for the Ph.D. and obtain the approval of the Ph.D. Program Director. Students must be enrolled to take the required preliminary examinations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HPM 9996. Masters Res in Pub Hlth. 3 Credit Hours.
This course is limited to students who have chosen to fulfill the master's degree by writing a thesis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HPM 9998. Dissertation Proposal Research. 2 Credit Hours.
This course supports preparation of the dissertation proposal. The course is required for students who have passed the preliminary examinations for their PhD program and who have not yet defended the dissertation proposal.

Department Restrictions: Must be enrolled in one of the following Departments: CPH:Health Serv Admin & Policy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Philosophy.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
HPM 9994|Minimum Grade of P|May not be taken concurrently.

HPM 9999. Dissertation Research. 1 to 6 Credit Hour.
This course is limited to Ph.D. candidates who have completed and defended a dissertation proposal that is filed with the Graduate School by the last day to add a course in the semester. Continuous registration in 9999 fall and spring is required until the dissertation is successfully defended.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.

Health Related Professions (HRPR)

Courses

HRPR 5001. Current and Emerging Issues in Public Health and Health Professions. 0 Credit Hours.
This course is designed to provide students with an introduction to the five core areas of public health -- biostatistics, epidemiology, environmental health, health services administration, and social behavioral sciences -- and to demonstrate the intersection of public health with various health, health care, and human service professions. The discipline of public health is multifaceted, and these facets impact individuals and communities in different ways. Students will be expected to think critically about issues such as disease prevention, health promotion, the determinants of health, health information privacy, access to health services, and environmental issues, and to consider how those issues drive human behavior and community (local, national, and international) development. Successful graduation from the College of Public Health is contingent upon completion of 12 web-based modules from the approved compendium for this course. There are six core modules that all students must complete: Advancing Health People 2020, Social Determinants of Health, Access to Health Services, Health Information Technology, Public Health Infrastructure in the United States, and Environmental Health. The remaining six modules may be either embedded by program faculty or self-selected and self-paced by the individual student. Faculty can mandate certain modules within course content.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
HRPR 5200. Clin Pharm. 1.5 to 3 Credit Hour.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HRPR 5999. Research Experience in Health Professions. 0 Credit Hours.

The Research Experience provides graduate students hands-on experiences in a research setting prior to undertaking independent, director, master's project, master's thesis, or dissertation research. This course allows graduate students the opportunity to learn best practices and principles of health research, including designing and carrying out a study, collecting preliminary data, field experiences, participation in research group meetings, assisting with analyses, drafting manuscripts, etc. with faculty which may lead to identifying a faculty mentor. The course will be graded as Pass or Fail. The Research Experience is a non-repeatable course. After the completion of this Research Experience, students will need to be enrolled in an independent study, directed research, master's research, master's thesis, dissertation proposal, or dissertation if they continue in an active research program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRPR 8101. Bioethics and Ethical Decision-Making. 3 Credit Hours.

This seminar course is designed to facilitate interdisciplinary dialogue and approaches for ethical decision-making. Students from many health disciplines can engage in bioethical discourse. Students can increase their understanding of ethics within the context of research and health care, identify and consider moral and professional values and preferences when collecting information and making decisions, and recognize the importance of collaboration when making bioethical decisions. The student reflects on personal decision-making through an exploration of the results of the Myers-Briggs Type Indicator (MBTI).

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRPR 8102. Cultural Competence in Health Studies. 3 Credit Hours.

This course emphasizes culture as a defining characteristic of our diverse society and examines a multitude of its implications for culturally sensitive and competent health-care service, policy-making, and system transformation in a transdisciplinary and transcultural context. The course begins with contextualizing key concepts such as cultures, health disparities, cultural competence, cultural sensitivity, multicultural health, cross-cultural concepts of health and illness, and complementary/alternative medicine and spirituality. Communication, education/training, programming, and ethical issues central to promoting cultural competence in the healthcare system are then addressed. In addition, the course gives insights into specific cultural groups, including Hispanic, African, Asian, Native, and Caucasian American populations, as well as aging populations and individuals with unique sexual orientation. Key challenges and opportunities concerning cultural issues facing the current health fields are also examined.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRPR 8103. Health Across the Lifespan. 3 Credit Hours.

This course will provide an interdisciplinary lifespan-oriented overview of the health construct spanning from prenatal influences through to extreme longevity, with an emphasis on its inter-relationships with biological, behavioral, and social ecological influences. Particular emphasis is given to methodological, theoretical, and substantive issues needed for synthesis of an interdisciplinary mastery of development and health. By the end of the course, students gain a thorough knowledge of how to measure health of individuals, communities, and populations; an understanding of both the correlates and sequelae of health and development across the lifespan; and an ability to assess the implications of health disparities across the lifespan.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRPR 8104. Systems Theory and Change Theory. 3 Credit Hours.

The purpose of this course is to provide the theoretical foundation for all subsequent courses and formal scientific inquiry. Students in this course will use systems theory, change theory, and other integrative theories and models to explore complex health and life-quality related issues with ecological theory providing the planning framework. Students will focus on synthesis and integration of key health-related factors at the micro and macro levels that affect health for diverse individuals, families, communities, cultures, environments, societies and health systems using a lifespan and life cycle approach. They will apply principles guiding interdisciplinary approaches to complex health issues in a holistic manner.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
HRPR 8203. Systematic Rev Hlth Ecol. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRPR 8985. Teaching in Higher Education: Health Professions. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

**Healthcare Management (HCM)**

**Courses**

**HCM 5101. Health Systems Organization and Development. 1.5 to 3 Credit Hour.**
This course describes and analyzes the "physiology and fluid mechanics" of national, regional and local delivery systems, exposing students to the flow of funds and the resulting patterns of use, expenditure and health outcomes in these systems. Basic epidemiological concepts and their application to population-based health management are introduced. Current regional data, live case presentations and guest lecturers will be used where appropriate to translate abstract concepts into vivid concrete realities.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

**HCM 5102. Healthcare Organizational Leadership and Strategy. 1 to 3 Credit Hour.**
This course covers organizational and management theory, and the application of these principles to health services organizations. Emphasis is placed on current trends in health care organizational structure that will affect performance, quality and inter-organizational relations in the future, and the values and principles of health management as a profession. Responsibility of health systems for the health of populations as well as the provision of high quality clinical services is emphasized. The course utilizes information from the textbook and current management publications; guest lecturers; case analyses, both published and live, that provide important insight into the workings of health services organizations; and personal experiences of the instructors and class participants.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

**Pre-requisites:**
(HCM 5101|Minimum Grade of B-|May not be taken concurrently)
AND (HCM 5103|Minimum Grade of B-|May not be taken concurrently)
AND (HCM 5106|Minimum Grade of B-|May not be taken concurrently)

**HCM 5103. Financial Management of Healthcare Organizations. 3 Credit Hours.**
Current practices in financial management of health care operations, including the development of operational and capital budgets, business plans, and methods for measuring financial performance, and assessing the impact of alternative contractual arrangements with third party payers. The live cases studies will deal with the issues related to practice acquisition, and the financial insolvency of health plans and delivery systems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

**Pre-requisites:**
(HCM 5101|Minimum Grade of B-|May not be taken concurrently)
OR (HCM 5601|Minimum Grade of B-|May not be taken concurrently)
AND HCM 5602|Minimum Grade of B-|May not be taken concurrently)
AND (ACCT 5301|Minimum Grade of B-|May not be taken concurrently)
OR ACCT 5401|Minimum Grade of B-|May not be taken concurrently
OR ACCT 5001|Minimum Grade of B-|May not be taken concurrently
OR ACCT 5003|Minimum Grade of B-|May not be taken concurrently
HCM 5104. Healthcare Law and Information Technology. 3 Credit Hours.
This course deals with a shifting agenda of issues faced by health care managers such as those related to acquisition of capital, ensuring regulatory compliance, emerging health markets (e.g. assisted living, focused factories, etc) and health related information technology and e-commerce. The course includes live case studies and group projects related to these topics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HCM 5105. Healthcare Info Systems. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HCM 5106. Advanced Hlth Econ & Fin. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
HCM 5101|Minimum Grade of B-|May not be taken concurrently
OR (HCM 5601|Minimum Grade of B-|May not be taken concurrently
AND HCM 5602|Minimum Grade of B-|May not be taken concurrently)

HCM 5170. Special Topics. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HCM 5180. Special Topics. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HCM 5182. Independent Study. 1 to 6 Credit Hour.
Directed study of health services management projects under supervision of an appropriate graduate faculty member.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HCM 5185. Sum Admin Res Sem. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HCM 5190. Special Topics-HCM. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HCM 5282. Independent Study. 1 to 3 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
HCM 5601. The Organizational Structure of the US Health System. 1.5 Credit Hour.
This course provides a systematic overview of the United States Healthcare Services System focusing on its historical, current, organizational, human resources, and educational dimensions. Contemporary issues confronting the system's organization and operation are addressed. The purpose of this course is to provide graduate students with a common basis of information about the characteristics, components, and structure of the U.S. Healthcare System, in order to acquaint students with the various institutional mechanisms through which healthcare services are delivered in the U.S. Special emphasis will be placed on the acquisition of a functional knowledge of key technical terms commonly used in health care delivery. At the conclusion of the course, all will have a common ground and knowledge base from which to progress. Thus, this course also provides the student with an awareness of factual information, data and statistics, technology and terms and concepts unique to health care delivery systems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HCM 5602. Market Forces, Regulation and Policy in the US Health System. 1.5 Credit Hour.
Health Policy and Regulatory Analysis began in the 1930's as an area of rigorous systematic evaluation in the United States. It struggled to find ways to finance and organize health services rationally, assuring that the basic health needs of a population were met. Its practitioners had a strong bias towards capitated financing and regionalized delivery networks. These efforts, however, largely remained academic exercises, attacked by the hospital and medical mainstream. Federal legislation that might have incorporated some form of universal coverage was stymied. In its place a fragmented, voluntary, patchwork system of healthcare financing and delivery evolved. How do you make the system accountable to their purchasers, enrollees and to the public as a whole? How much can you really rely on market forces (as exemplified by the total reliance on private insurance as the vehicle for implementation) where health risks and the ability to pay for their consequences are so unevenly distributed? How do you re-tool the infrastructure to improve health and reduce costs in a community fragmented by provider competition? All of the traditional boundaries are blurring between public health and private health care, between drug and alcohol treatment, mental health and acute care services and even the schools and criminal justice system. Never before has answering such questions been as central to defining our national identity and in determining our long-term social and economic future!

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HCM 5603. Population Health Management. 1.5 Credit Hour.
Two of the most important trends facing healthcare providers include increasing responsibility for population health and quality improvement. The Affordable Care Act of 2010 and market forces are compelling healthcare organizations to adopt innovative organizational forms such as accountable care organizations and patient centered medical homes that rely on the use of epidemiological data for purposes of program planning and assessment. Both internal and external health data are used for purposes of managerial decision making. Welcome to the era of "big data." This course will be devoted to the application of managerial epidemiology to the strategic management and quality improvement processes that will assure effective performance.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HCM 5604. Analytic Foundations of Health and Healthcare. 1.5 Credit Hour.
This course will address how people purchase health care and the implications of people's purchasing behavior for pricing health care goods and services. We will begin with a discussion of health as something a person invests in, that depreciates over time, and that requires an individual to make decisions now based on future expectations. We will then move into a discussion of some concrete principles for determining the value of a good or service in the health care market. We will include basic concepts of comparative effectiveness analysis (comparing two services regardless of cost) and cost benefit analysis (determining how much people are willing to pay for a service and comparing it to the cost of provision). We will then go through some specific applications of these principles to actual health care services. Finally, we will address how health insurance affects the decision-making process. The course will incorporate health care practitioners to move students through case analyses.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
HCM 5605. Healthcare Market Structure and Strategy. 1.5 Credit Hour.
This course will look at the market structure of the health care industry from a strategic perspective. The health care industry has several unusual characteristics: there are a large number of nonprofit firms, much of the financing comes from government sources, and service quality is difficult to measure (as it also is in markets such as law, auto repair, etc.). We will first examine how nonprofits and for-profits can be expected to behave differently when making decisions. We will then look at how providers and insurers interact with each other, focusing on what strategic tools health care providers and insurers have at their disposal. Next we will look at a key element of integrated healthcare delivery: the bundling of multiple services into single products or product lines. Finally, we will examine the role of principal-agent problems (where a principal hires an agent, but cannot fully observe the agent's actions) in the context of the physician-patient relationship and the provider-insurer relationship. The course will incorporate health care practitioners to move students through case analyses.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

HCM 5606. Financial Analysis and Managerial Accounting for Healthcare Organizations. 1.5 Credit Hour.
This course focuses on the application of financial analysis and managerial accounting for healthcare organizations. The reading, discussion, lectures, cases, problem sets and presentations (from industry representatives and fellow students) are the main learning tools. Key topics include reimbursement, utilization, quality and healthcare costs. The primary organization type focused on in the text is the hospital, but other types of organizations with different business models, such as pharmaceutical firms, physician group practices, managed care organizations, and insurers, will be considered. Particular attention will be given to the differences between for-profit and non-profit organization types in health. We will also discuss the perspective of payers (governments, employers, individuals).

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

HCM 5607. Corporate Finance and Strategy in Healthcare. 1.5 Credit Hour.
This course focuses on the application of strategy and financial analysis for strategic and tactical decisions in the health care sector. The course will primarily be case based, but we will also include select readings and problem sets, lectures and presentations (from industry representatives and fellow students) to facilitate learning. The course assumes working knowledge of corporate finance (e.g. NPV/IRR, Modeling Cash Flows in Excel), general managerial accounting (Working Capital, Fixed/Variable Costs, Budgeting) and ability to interpret and use financial statement (Income Statements, Cash Flow Statement, Balance Sheet). A background or prior course on the structure of the US healthcare system is also helpful. In order to ensure that students understand and can apply important financing methods for various health organization types, select cases may include: NPV for a Long-Term Care Expansion of a Non-Profit Academic Health Center; Risk analysis for pharmaceutical development; Cost accounting in Hospitals; Working Capital simulation for a OTC pharmaceutical start-up; M&A and Valuation of health service organizations; International markets and currency risk in pharmaceuticals; Premium development for health insurers. By applying these finance and strategy tools in a health setting, we hope to make students more aware of unique aspects of the health sector and improve their ability to contribute to applied decision-making for organizations that produce and deliver healthcare.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

HCM 5621. Healthcare Analytics. 1.5 Credit Hour.
The ability to analyze data and interpret the results of statistical analyses is an important skill for all students who plan to enter the health care industry. This course will examine several statistical models that are useful for the analysis of health care data. We will apply these statistical models to problems within health care organizations (such as estimating the effect of a new process change) and within the larger context of health care markets (such as predicting demand for a new hospital program). Although students will be expected to understand the basic statistical foundations of these applications, the focus will be on using statistical tools to find patterns in real-world data. Students will learn how to perform these analyses using Microsoft Excel. Specific topics covered will include program evaluation, least squares and logistic regression, determining causality, and choice models.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.
HCM 5622. International Health Systems. 1.5 Credit Hour.
In most OECD countries, healthcare is an important component of the economy - typically responsible for 10% of GDP or more. Healthcare markets in emerging countries and middle income markets are also growing rapidly and are increasingly important sources of revenue for multinational healthcare firms. This course examines the comparative structure of health care systems/markets in different countries, focusing on insurance mechanisms, financing and delivery systems for healthcare. Prototypical approaches to healthcare in developed countries include National Health Systems (UK, Canada), Social Insurance Systems (Germany, Japan) and Market-focused systems (US, Singapore). We will also discuss systems in middle income and emerging markets (China, India). Important themes include the relative roles of private sector and public sector, the effect of system design on cost, quality, efficiency and equity of medical services, rationing of resources and evaluation of these countries as markets. We will examine how many of the policy/market issues in the US also are relevant for other countries and vice versa.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HCM 5623. Healthcare Risk Management and Patient Safety. 1.5 Credit Hour.
Healthcare organizations (HCOs) like all other types of firms are exposed to the uncertainties of facing losses due to substantial risk exposures. The uncertainty of facing losses may prevent the firm from maximizing shareholder value as well as render it less competitive in the healthcare market. Exposure to future uncertain losses may arise from a variety of uncertainties; the ability to identify and manage these risks so as to maximize the HCOs long range growth, profitability and maximization of stake holder value is the primary goal of healthcare risk management. In the healthcare setting, risk management is essentially inseparable from healthcare law, patient safety and quality. Thus, the course includes modules in healthcare law, patient safety and quality. In addition, we will explore both patient safety and quality as outcomes of the risk management process. This course focuses on the enterprise approach to the risk management process as it pertains to HCOs. The primary focus will be on identification of exposures, applying the risk management paradigm to manage those exposures to loss with an emphasis primarily on loss control methods. General risk financing techniques will also be explored. The relationships and synergies among risk management, quality improvement and patient safety will also be explored.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HCM 5624. Pharmaceutical Trends, Issues and Policies. 1.5 Credit Hour.
This course utilizes in-class discussions, guest lecturers, case studies, current published academic research, industry publications, and business policy writing to understand the trends and complex issues facing the pharmaceutical industry. Students will explore business strategies and public health policies that companies and governmental institutions respectively can take to find solutions to critical pharmaceutical issues while mitigating policy implementation risk. Analyses of these trends, issues, and strategic policies will cover the entire life-cycle of a drug, from pre-discovery through to post-patent expiration. Complementary developments that affect the pharmaceutical industry and patient health in areas such as medical devices, imaging and diagnostic equipment, and smart phone technology will be discussed. The ultimate objective is to assist students in developing and applying strategic thinking competencies through study and practice in formulating business and health policy positions on various issues critical in addressing unmet patient medical needs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HCM 5625. Strategic Context of the Pharmaceutical Industry. 1.5 Credit Hour.
This course examines specific topics in-depth critical to the future of the pharmaceutical industry. This course utilizes in-class discussions, guest lecturers, current published academic research, and industry publications to explore the future of this vital industry. While the proportion of national health expenditures spent on pharmaceuticals is significantly less relative than money spent on hospitals and physicians respectively, it is a very critical component for society in achieving its overall health policy goals. Focus will be on factors necessary for growth in R&D productivity, new commercial models necessary to capitalize more efficiently and effectively new drugs, and the formation of an overall regulatory environment necessary for continued drug innovation. An exploration of trends happening in healthcare as well as those occurring externally such as those in the consumer packaged goods industry and technological developments (medical devices, imaging and diagnostic equipment, and smart phones) will be undertaken to determine their effects on the future of the pharmaceutical industry and patient health. This course will be devoted to the application of an interdisciplinary and holistic systems approach to understanding the forces shaping the future of the pharmaceutical industry.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
HCM 5651. Healthcare Leadership and Strategy. 1.5 Credit Hour.
The course utilizes in-class discussion, guest lecturers, case studies, current healthcare management literature and the monitoring of environmental
trends all in the context of management and organizational theory to understand issues facing healthcare organizations and managerial actions and
strategies that help those organizations to maintain high levels of performance. Emphasis is placed on the application of organization theory and
behavior to the analysis and interpretation of factors that will affect performance, quality and inter-organizational relations in the future, and the values
and principles of health management as a profession. The ultimate objective is to assist students in developing and applying managerial and leadership
competencies through study and practice.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

HCM 5882. Independent Study. 1 to 6 Credit Hour.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

HCM 5892. Special Topics. 1 to 6 Credit Hour.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

HCM 9090. Spec Topic Hlthcar Mgt. 1 to 6 Credit Hour.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

HCM 9183. Directed Study-Hlth Adm. 1 to 6 Credit Hour.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

Higher Education (HIED)

Courses

HIED 5101. Introduction to Higher Education. 3 Credit Hours.
The purpose of this introductory seminar is to provide a foundation in the theory, research and practice of higher and post-secondary education. This
course examines the history and philosophy as well as contemporary issues related to the development, missions, and functions of American colleges
and universities. The course introduces graduate students to the interdisciplinary field of higher education which bridges theory, practice, policy and
empirical scholarship. Course content aims to enhance and develop students' abilities to critically understand higher education as a site of opportunity
and challenge and how these institutions continue to adapt to social, political, economic and demographic forces.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

HIED 5102. Administration of Higher Education. 3 Credit Hours.
This course is designed to help students develop their own practices as principled and effective higher education leaders. Successful administrators
have to understand the complexity of the organizations in which they work as well as the political, economic, and social ecosystems in which those
organizations are situated. This course helps students understand how to situate particular higher education administrative challenges (retention and
student success, equity, learning and assessment, etc.) within the complex organizational and governance structures of higher education institutions.
The course also explores theories of organizational culture, learning and change through which administrators can effectively make sense of and
address the most pressing challenges in higher education.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.
HIED 5103. Access and Equity in Higher Education. 3 Credit Hours.
This course covers theory and best practices to help professionals better prepare students underrepresented in higher education for what it takes academically and personally to enroll in and transition through college and onto careers. Focal areas will include: pre-college programs created and designed to assist these underrepresented students and connecting student access and success programs as partners with institutions of higher learning. This course will also provide strategic planning models to assist course participants in analyzing how access and success programs can be an integral part of an institution. Students gain more knowledge of access and equity concerns and the resources necessary to help students successfully navigate postsecondary opportunities.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

HIED 5104. College Students and Development Theory. 3 Credit Hours.
This course covers theories, perspectives and research that inform contemporary college students' development and experiences. The study of American college students reflects the history and development of social and cultural issues that have marked the society’s general development. The perspectives and experiences of contemporary students in colleges and universities inform institutional policy as well as directives for the larger society. This is an introductory course focused on students in higher education as an area of professional practice and research. Course content examines theory and college as theoretical context, student development and identity formation within and beyond higher education institutions and links theory with professional practice.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

HIED 5201. Diversity Issues in Higher Education. 3 Credit Hours.
While colleges and universities have historically struggled to attract and retain students from diverse populations, growing political, economic and ethical demands of the day have forced many to revisit their institutional commitment to diversity and inclusion. This course is designed to provide students the opportunity to critically examine the impact of diversity on all postsecondary stakeholders including students, staff, faculty members, administrators, policy makers, local community members and employers. Using various theoretical models, this course will also help students develop a shared language around diversity, assess institutional missions and responses to diversity and inclusion, and finally, to develop a knowledge base to support strategies for inclusive advising and student support practices in higher education.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

HIED 5202. Higher Education Economics and Finance. 3 Credit Hours.
This course provides aspiring leaders, administrators and academics with an overview of economics and finance in higher education. The premise of this course is that in today's increasingly demanding higher education environment, with challenges such as budget cuts, rising institutional costs, tuition pressures, affordability, access and success, the most effective higher education leader must possess at least a basic understanding of postsecondary economics and finance. This course is designed to instill that knowledge, as well as to provide students with an opportunity to critically analyze the literature, issues, and recent trends, for purposes of both practical application and ongoing research.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

HIED 5203. Getting into College: Strategic Enrollment Management. 3 Credit Hours.
This course focuses on topical issues in enrollment management in higher education and is intended to serve as an introductory seminar. As such, it aims to provide a forum for thoughtful and meaningful discussion of readings and materials related to strategic activities in enrollment management. The course supports the notion that practice of admissions is not a singular independent activity, but in fact, is an integral part and linked to what we know about the development, mission, and current student profile issues that influence institutional practice. Therefore, the course uses current readings and research (e.g., journal articles, books, higher educational newspapers, reports, and internet resources) to examine issues at the core knowledge base of enrollment management theory and practice in higher education.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.
HIED 5301. Planning and Assessment in Higher Education. 3 Credit Hours.
This course provides an overview of the accreditation, planning and assessment processes in higher education. It is a graduate-level seminar designed to introduce students to theory, uses, and outcomes of planning in higher education. Strategic planning is a long-standing practice in the business world, but planning—as a proactive and integrated activity—is an expanding practice in American colleges and universities. The course explores accreditation processes particularly how institutional self-assessment and adherence to standards for student learning outcomes assure higher education's internal and external publics that accredited institutions are fulfilling their stated purposes and addressing public and policy expectations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIED 5401. Student Affairs in Higher Education. 3 Credit Hours.
This course is a survey to student affairs as an area of professional practice in higher education. Course content examines the organization and administration of student affairs in postsecondary institutions in the United States and also encourages the application of research and theory to student affairs practice. Specifically, theories, research, and methods are introduced to encourage reflective application to professional practice. Learning objectives and outcomes for the course will be achieved by exploring the following topics: administrative environment of student affairs; organizational and management issues related to student affairs; essential skills and competencies for student affairs administrators and leaders; diversity/equity issues in student affairs; assessment; professional development; and future challenges and opportunities for professional practice in the field.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIED 5502. Digital Education Leadership. 3 Credit Hours.
This course develops prospective online higher education leaders' vision, skills, and knowledge necessary to responsibly facilitate and sustain online education programming within post-secondary institutions. The premise of this course is that in today's increasingly digitized and online higher education environment - one that has given rise to new forms of faculty development, academic support systems, interdepartmental relationships, and federal/state policies - the successful higher education leader must nurture a vision that will advance both the institution's mission and diverse learners' individual goals. This course is designed to provide students with an opportunity to critically analyze the literature, emergent trends, and various professional standards for purposes of both practical application and ongoing evaluative research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIED 5801. Gender Issues in Education. 3 Credit Hours.
This graduate-level seminar serves as a survey of gender issues across the education pipeline. Course content is based on studies of primary, secondary and college settings with implications for administration and leadership. This course examines gender issues including identity development and constructions within diverse education spaces. Placing gender at the heart of this course, considerable emphasis is also placed on the intersection of race, class and sexual orientation in education.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIED 5802. Leadership in Higher Education. 3 Credit Hours.
While many higher education classes on leadership focus on the functional roles and hierarchical structures of leaders within postsecondary educational institutions, this class centers on the development and expression of individual leadership qualities. Current theories of leadership will be explored as well as the interpersonal skills necessary to be an effective leader within higher educational institutions. Topics will include: The self-reflective leader, career planning assessments, leadership theories and practices, communication skills for leaders and reflections and recommendations from current exemplary leaders in colleges.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
HIED 5803. Law and Policy in Higher Education. 3 Credit Hours.
This course is designed to provide an intensive theoretical and pragmatic inquiry into the ways that higher education administrative practice is regulated. The course examines regulation not just in terms of the legal institution (i.e., case law and the courts) but also as the array of social and political structures that impact the delivery and management of postsecondary education. In addition to major legal events and controversies impacting higher education, students will become familiar with key federal regulation, state and federal policy, and internal institutional regimes of authority, as well as "soft" regulatory mechanisms of markets and social norms. The course helps students understand the nature of law, policy, and regulation as social structures impacting practice in higher education, and provides a critical overview of current key areas of law, policy, and regulation influencing practice in higher education.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIED 5804. The Community College. 3 Credit Hours.
This course provides a critical analysis of the characteristics, scope, public policy issues, and impact of community and two-year colleges in the United States. Institutional types presented in this course include traditional community colleges, two-year colleges, junior colleges, proprietary schools, and branch campuses. The course introduces students to historical landmarks in the development of community colleges; describe and analyze the impact and implications of the current characteristics, status, and student demographics of community colleges including their role in increasing national college graduation rates. Community colleges’ position and role in the higher education landscape are investigated with attention to their external organizational systems and financial structure including state systems, university systems, corporate structures, and other affiliations. A wide range of curricula issues are examined, including transfer articulation agreement, liberal arts, vocational/technical/career, continuing and digital education, and developmental/remedial programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIED 8093. Advanced Higher Education Research Seminar. 3 Credit Hours.
The Ed.D. in higher education is a rigorous program that is built around aligned and integrated content related to the study of higher education and practice. Students in the program develop proficiency in research methods and data analysis through course work. This advanced research seminar is designed to provide students with structured preparation for writing a literature review and other competencies evaluated in the comprehensive examination. During the seminar, the development of a literature review and preparation for the doctoral comprehensive examination will be combined. Doctoral students will be enrolled in this seminar as they complete all required coursework for the program or it should be taken immediately following completion of coursework. The seminar serves as intensive groundwork for the comprehensive exam and all students will take the exam at the end of the advanced research seminar course. Given this intentional link to preparation for the comprehensive examination, the seminar will focus on developing students’ ability to: Situate and define a chosen topic within the concepts and history of the field; Compare, contrast, and justify various research methods appropriate to investigate a practice-based research problem in higher education; and Critically synthesize the extant scholarly and practice-focused literature that informs topic.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIED 8101. Advanced Seminar on Higher Education Administration. 3 Credit Hours.
HIED 8101 is an advanced seminar focused on higher education administration as an area of professional practice and research. Course content examines the organization and administration of higher educational institutions and links the application of research and theory to practice. Learning objectives and outcomes for the course will be achieved by exploring the following topics: higher education as a social good; administrative environment of higher education; organizational factors related to how universities and colleges function; assessment competencies for administrators and leaders; diversity/equity and cultural issues; and future challenges and opportunities for professional practice and research in higher education. During the course, students will explore a variety of roles higher education administrators play on university/college campuses and seek to develop an understanding of how institutional cultures (and professionals’ roles within those cultures) facilitate institutional effectiveness. Specifically, this course is designed to critically engage students’ thinking about higher education institutions through discussing contemporary issues, problems, trends, administrative practices, leadership and post-secondary opportunities. An initial brief review of current and lingering challenges of higher education in the United States will help ground the course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
HIED 8102. Higher Education Economics and Finance. 3 Credit Hours.
This course provides doctoral students with a comprehensive overview of economics and finance issues in higher education. The premise of this course is that in today's increasingly demanding higher education environment, with challenges such as budget cuts, rising institutional costs, tuition pressures, affordability, access, and so on, the successful higher education leader must possess at least a basic understanding of postsecondary education economics and finance. This course is designed to instill that knowledge, as well as to provide students with an opportunity to critically analyze the literature, issues, and recent trends, for purposes of both practical application and ongoing research. This course addresses theoretical and practical aspects of higher education administration. The theoretical components are based primarily on the readings. The practical aspects derive from the professor's experiences as a university administrator, from the experiences of members of the class and from reading about current events and cases.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIED 8103. Equity in Higher Education Policy and Practice. 3 Credit Hours.
This doctoral course on equity in higher education covers theory and best practices related to under-represented groups in higher education. This course will engage critical issues informed by research, policy and practice relating to access and equity in higher education. Special attention will be given to the ways in which race, gender, class, and the intersection of these social identities influence equity considerations in higher education. The course will specifically examine what it takes structurally and institutionally to enroll and transition traditionally marginalized students to post-secondary education. Focal areas will include: pre-college programs and policy created and designed to assist these students and connecting access and equity programs as partners with institutions of higher learning. Course participants will gain more knowledge about research on equity issues and the practices necessary to help students successfully navigate postsecondary opportunities.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIED 8104. Seminar on Theory in Higher Education and Leadership. 3 Credit Hours.
This seminar is designed to provide doctoral students a general understanding of (1) what theory is and how it guides scholarly research and effective administrative practice in higher education, and (2) major theoretical perspectives, frameworks, and paradigms that inform higher education research and practice. The course is not meant as an exhaustive survey of all theory relevant to higher education. Rather, the course is intended as an intensive seminar to help students develop the skill of identifying, understanding, and applying theory related to applied research and practice. The following broad questions guide the course: What are the differences between theories, paradigms, conceptual models and frameworks, and epistemologies in higher education? Why is theory important to higher education research and to practice? What are the differences between "micro" and "macro" or "meta" theory? When is each appropriate or helpful in research and practice in higher education? How do we employ theory in research and how does the role of theory differ between qualitative and quantitative methodologies? Where and how does theory appear in a dissertation proposal?

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIED 8262. Advanced Practice-Based Qualitative Research in Higher Education. 3 Credit Hours.
This doctoral course is intended to provide a forum for advancing qualitative research strategies in the practice of higher education. The course extends the study of foundational philosophies, standpoints and uses of qualitative inquiry. Designed to help doctoral students in higher education develop a critical understanding of the various considerations and stages of qualitative research, this course includes the development of researchable questions, understanding theoretical and conceptual frameworks, and using methodological strategies such as data collection and analysis. Course readings, assignments, discussions, and learning activities will expose students to qualitative studies in the higher education literature. In doing so, the course aims to prepare students for qualitative approaches that may be part of their dissertation research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIED 9995. Master’s Capstone in Higher Education. 3 Credit Hours.
In this course, students completing a master's degree in higher education will work with an advisor to construct a capstone project. Drawing on the program's core ideas students will complete a summative project in which they apply these ideas to a real-world problem in the field. The final product for the course will include a written document summarizing this work.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

History (HIST)
Courses

HIST 5151. Nonprofit Management for Historians. 3 Credit Hours.
This course provides an introduction to the non-profit based management, leadership and administration issues and practices for historical and cultural heritage organizations. The goal of this course is to provide students who will be entering the public history field with the background knowledge and tools to be effective managers and leaders in their institutions. Students are introduced to the complexity of issues in historical management and administration as reflexive practitioners and engage a wide variety of case studies, issues analysis, and real-life examples from local historical institutions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 5152. Digital History. 3 Credit Hours.
The definition of digital history is amorphous, broad, and often debated. Digital history projects may refer to everything from an online exhibition to a podcast to mapping and geographic information systems. This class will explore digital history in terms of the questions of narrative, shared authority, access, and historical analysis that arise when using digital tools for working with history. We will discuss the major issues involved in digital history initiatives and gain familiarity with various technologies often used in such projects.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 5187. Public History Practicum. 3 Credit Hours.
The public history practicum allows students to intern in historical organizations while learning from one another in periodic classroom meetings. Internships balance student interests with the needs of partnering institutions. Each student must complete 140 hours of work under the supervision of an experienced public history professional in addition to writing assignments devised and evaluated by a faculty internship supervisor. Students must contact the director of the Center for Public History about their intent to enroll by no later than the midpoint of the semester preceding the practicum.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 5231. Gender and Sexuality in Asia. 3 Credit Hours.
The course focuses on gender and sexuality in the modern history of Asia.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 5280. Special Topics: American. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HIST 5400. Special Topics. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HIST 5480. Special Topics: European. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HIST 5500. Studies in Asian History. 3 Credit Hours.
Readings and discussions on selected topics in modern Asian history.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HIST 5540. Special Topics in Latin American History. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
HIST 5670. Special Topics in African History. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HIST 5680. Special Topics in Asian History. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HIST 5800. Comparative Women's History. 3 Credit Hours.
Exploration of two to three selected topics in women's history in comparative, global perspective. Topics may include: 1) gender, race, and state; 2) women, religion, and social change; 3) women in industrializing societies; 4) domestic contestations; 5) histories and theories. See current semester description.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HIST 5880. Special Topics in World or Comparative History. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HIST 8009. Women and Gender in the American South. 3 Credit Hours.
This seminar surveys the field of Southern gender history in the nineteenth and twentieth centuries (to WWII). The field itself is a new one - a course such as this would have been difficult to put together a generation ago - but Southern women's and gender history already has its "classic" works, dominant interpretations, and heated controversies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8101. Introduction to American History I (to 1865). 3 Credit Hours.
This is the first segment of the Introduction to American History readings seminar required of all M.A. and Ph.D. students in U.S. History. Doctoral students are required to take both courses in this sequence. M.A. students must take one of the two segments. This segment covers the colonial era through the Civil War.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HIST 8102. Cultural History. 3 Credit Hours.
Investigates ways that historians and other scholars have interpreted modern popular culture, 1800 to the present. American media, sports, entertainment, fashion, art, as well as American myths, ideas, and popular thought are some of the topics that will be explored.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8103. Studies in American Diplomatic History. 3 Credit Hours.
Readings in and discussion of the principal schools of interpretation and conceptual frameworks in the history of U.S. foreign relations as a means to introduce students to the subfield. A complement to Studies in the Cold War (HIST 8209), the chronological parameters extend from the Revolutionary era through the conclusion of World War II. In addition to completing weekly reading and writing assignments, and as a final assignment a comparative review essay, students will participate actively in class conversations about history and historians.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8104. Studies in African American History. 3 Credit Hours.
The emphasis is on the period since the Civil War. Possible topics include Reconstruction and rise of segregation; urbanization of the black population; history of black women in U.S.; Civil Rights revolution.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
HIST 8105. History of Education. 3 Credit Hours.
This course focuses primarily on the way that educationally institutions, broadly construed, have shaped American culture and society. Special attention is paid to recent historiographic debates concerning education and its social effects.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8106. Modern American Social History. 3 Credit Hours.
The theme of the course in recent years is Race, Ethnicity, and Poverty in the U.S., 1870-1940. The main subject is the impact of industrialization and urbanization on the working class, the poor, and minority groups during the period when the U.S. emerged as an industrial power. Attention is also given to the response to poverty, both by private charities and the state.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8107. Religion in Modern United States. 3 Credit Hours.
This course explores the history of religion in the United States between 1877 and the present. In the past decade a cadre of creative scholars has focused their attention on American religious history. They have transformed the field: it is far more capacious, lively, and sophisticated than it was ten years ago. This course provides students with an introduction to the field. It also offers them a chance to focus their attention on a set of questions related to historians' determination to take religion seriously. What does it mean to do take religion seriously? What is the opposite of taking religion seriously supposed to be? In what ways, if any, has the determination to take religion seriously hampered the development of the field?

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8109. Studies in 20th Century American Political History. 3 Credit Hours.
A graduate studies course devoted to the critical evaluation of the historiography of U.S. political history since the election of 1928. Students read and evaluate selected writings on such topics as the politics of the Great Depression, the New Deal Revolution, Domestic Politics During World War II, the Politics of Fear and Loyalty, the Fair Deal, Eisenhower, Kennedy, the Politics of Civil Rights, the Politics of Dissent, LBJ and the Great Society, the "New Politics" (1968), the Republican Majority since Nixon, Interest-Group Politics, and the Paradigms of American Politics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8111. Introduction to American History II (since 1865). 3 Credit Hours.
This is the second segment of the Introduction to American History readings seminar required of all M.A. and Ph.D. students in U.S. History. Doctoral students are required to take both courses in this sequence. M.A. students must take one of the two segments. This segment covers the Civil War to the present.

Department Restrictions: Must be enrolled in one of the following Departments: CLA:History.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: History.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Liberal Arts.

Repeatability: This course may not be repeated for additional credits.

HIST 8112. Introduction to American History III. 3 Credit Hours.
This is the third segment of the Introduction to American History readings seminar required of all M.A. and Ph.D. students in US History. Ph.D. students are required to take two out of the three courses in this sequence. M.A. students must take any one of the three segments. This segment will cover what is now conventionally referred to as Modern US History -- the years following World War I to the present.

Department Restrictions: Must be enrolled in one of the following Departments: CLA:History.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: History.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Liberal Arts.

Repeatability: This course may not be repeated for additional credits.
HIST 8121. Stalinism: Power, Society, and Culture. 3 Credit Hours.
The seminar will deal with "classical" books written by witnesses and contemporaries of Stalinism, the stalwarts of "totalitarian school" and its first revisionists. The seminar will focus on the major developments and events that determined and shaped Stalinism as a historical period. The discussion will also deal with major aspects of the phenomenon: politics, social transformation, formation of new elites, mass mentality, propaganda, language, culture, and art. The course will end with an overview of de-Stalinization; it will address the reasons for the staying influence of Stalinist experience and the attempts in the Soviet/Russian society to reject and supersede it.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8151. Studies in American Material Culture. 3 Credit Hours.
Introduction to literature from several fields that use artifacts to understand culture. Exploration of various theoretical approaches. Topics include architecture, folk art, photography, decorative arts, landscape design, historic preservation, and the use of interior space.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8152. Managing History. 3 Credit Hours.
This course explores the practical considerations and theoretical issues concerning the management/ownership of the interpretation, preservation, and presentation of history for public consumption. Emphasis is placed on public management policies and methods of private ownership of critical historical issues, including, but not limited to, museum exhibits, historical preservation policies and practices, governance of historical societies and museums, publication practices, historical documentaries (aural and visual), and other elements related to the dissemination of historical interpretations, common historical knowledge, and public memory. This course asks: Who manages American history and American memory? Who Owns History? Who is empowered to tell the story and how did they gain that power? What role does the historian play in the formulation and preservation of public memory?

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8153. Archives and Manuscripts. 3 Credit Hours.
An introduction to the theoretical and applied aspects of historical records management. Taught in cooperation with local archives and historical societies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8201. History of Philadelphia. 3 Credit Hours.
Students who enroll in this class will be given an opportunity to analyze the cultural, economic, political, and social history of Philadelphia. Special attention will be paid to immigration, ethnicity, and race.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8202. American Colonial History. 3 Credit Hours.
A survey of how American society developed before the Revolution: the evolution of American politics and political institutions; the changing imperial system; internal and external conflicts; how the economies and lifestyles of the various colonial regions developed; the role of women; free and forced migration; the foundations of modern American life in the experience, thought, and values of colonists before 1775.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
HIST 8203. Age of the American Revolution. 3 Credit Hours.
This is a readings course on the causes, nature, and consequences of the American Revolution. The Revolution has a long, venerable -- and contentious -- historiography; the course examines classic and recent debates, probes different research and narrative strategies, and seeks to understand the possibilities and limits of: (1) understanding the late eighteenth century in light of the Revolution; (2) old and new international and comparative approaches; (3) the tendency to understand colonial and subsequent US history in light of the Revolution; (4) recent trends to highlight and integrate previously neglected topics, including slavery, African Americans, Native Americans; and (5) resurgent interest in "founders" and the Constitution.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8204. Early United States Social History. 3 Credit Hours.
Introduction to American social history from 1800 until the Civil War. Recent research on the structure of American society, the American family, immigration, the worker, urban developments, and the reform movements of the Jacksonian era.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8205. Civil War and Reconstruction. 3 Credit Hours.
This course focuses on the ordinary citizen rather than the rich and powerful. Much attention will be paid to issues of race, class, and gender.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8206. Studies in Recent American Urban History. 3 Credit Hours.
This course is broadly interdisciplinary, concerned with major developments in America's large cities from the mid-nineteenth century to the present. Basic issues include: the changing spatial structure of the city, social and geographical mobility, the nature of ethnicity and the Black experience, the development of crime and rioting, the structure of local politics, and the movements for urban reform.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8207. Recent United States History. 3 Credit Hours.
Presents a new approach to the history of the United States since World War II, focusing on social and economic change. Topics include: urbanization and suburbanization, rise of post-industrial economy, racial problems, shift of population and political power to the Sunbelt, and the impact of new technologies. Relates the political history of the era to these fundamental socio-economic changes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8208. Studies in United States Urban Crime. 3 Credit Hours.
Examines the significant scholarship and issues involved in understanding the history of crime in American cities, with special emphasis upon the period since the Civil War. The course deals mostly with the organized underworld, including drugs, gambling, bootlegging, prostitution, professional theft, and other on-going criminal activities. By linking the underworld to the city structure, sports history, entertainment, and reform, the course will examine the interrelationship of American urban and social history with the changing underworld.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8209. United States Foreign Policy in the Cold War. 3 Credit Hours.
Few if any "moments" within America's historical experience have generated the intensely competitive and emotionally-charged debates as has the "moment" called the "Cold War." The purpose of this course is to identify the questions that have bedeviled historians of the Cold War, and by reading competing interpretations, evaluate the strategies by which they have been addressed. Sample topics: U.S.-Russian (Soviet) relations, the nuclear arms competition and arms control, regional rivalries, summitry, alliance politics, cultural instruments of influence, crisis management, intelligence agencies, and critical personalities. Students will read widely, write frequently, and speak extensively.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
HIST 8211. Rise of the American Military Profession. 3 Credit Hours.
The overriding purpose of this course is to provide students with a theoretical framework for analyzing the evolution of modern military institutions and the people who lead them. Students will examine the development of the military profession in the United States from the War of Independence through the 1990s. Students will examine contemporary concepts of military professionalism by studying the careers of American officers in their historical context. This course will also address the major European influences that revolutionized standards of officer procurement, training, education, and advancement in the United States and around the world.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8212. North American Environmental History. 3 Credit Hours.
This seminar examines the interactions between human societies and the natural world in North America from the sixteenth century to the present. That relationship is complex: the environment both reflects people's influences and affects human history. Through reading and discussion, participants in this seminar will examine this reciprocal relationship. Topics to be discussed include Native American management of the environment; the effects of the European ecological invasion; resource exploitation in the industrial era; and the evolution of twentieth-century environmentalism.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8213. History of the North American West. 3 Credit Hours.
This seminar examines the history of the North American West from the mid-eighteenth to the mid-twentieth century. The course emphasizes the reciprocity of social and environmental history; cultural interactions in the multi-ethnic West; and the iconography and ideology of the "frontier."

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8214. Slavery and U.S. History. 3 Credit Hours.
This course provides an introduction to the scholarship on slavery as it has evolved within the U.S. field and at its borders in Atlantic and "New World" history. It pays particular attention to the development of key concepts and how different ways of understanding the place of slavery in colonial and American history reflected - and affected - changing interpretations of other aspects of the American past. This inquiry logically culminates in recent work that not only changes how we define the "institution" of slavery - or even whether it makes sense to call it an institution - but which also expands the range of subjects to which slavery can be said to be integrally related.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8215. Making of American Political Cultures. 3 Credit Hours.
This course is an intensive study of the political history of the U.S. between 1760 and 1890, with special attention to the concept of political culture as it has shaped our understanding of those years. As much about method as it is about the origins of American politics, the course is intended to familiarize graduate students with debates in the fields of American political history and of the early United States.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8301. Introduction to European History. 3 Credit Hours.
Overview of the field, its shape, main lines of research, and central concerns. Through selected readings, discussion, and guest speakers, participants gain understanding of current practice including political, social, and cultural history, the treatment of Europe in global studies and in contemporary metahistory.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8302. Atlantic World 15th-18th Centuries. 3 Credit Hours.
Examines main aspects of social and economic change in which the Old World and the New interacted in the 17th and 18th centuries: colonization; commercial agriculture and trade; servitude, free labor, and slavery; migration; changing lifestyles and expectations; the development of family and community; religion, reform, and revolts.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
HIST 8303. Studies in Russian History. 3 Credit Hours.
This course explores milestones in Russian/Soviet history and society during the 20th century. Basic knowledge of European and Russian history is assumed. Students will do intensive reading on the Russian Revolution, Stalinism and the Second World War, and on peaceful devolution of communism. The main purpose of this class is to familiarize students with the fundamental issues of this history, provide exposure to diverse interpretations, and promote discussion of research strategies and (to an extent possible) their source base. Special assignments will be encouraged, i.e., individual research that will help enrich class discussions. Writing assignments and oral presentations are the main requirements.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8304. Soviet Cold War- DeStalination. 3 Credit Hours.
This course is a sequel to the graduate course on Stalinism (History 8121). It studies two groups of literature: one on Soviet Cold War behavior and the collapse of the Soviet empire, and another on the post-Stalin history of the Soviet Union. The course emphasizes internal social-economic, cultural and intellectual developments inside the USSR as a crucial essential (and previously underestimated) factor in Soviet transformation and the peaceful end of the Cold War. This course aims at students who are interested in foreign relations, but also contemporary international history, globalization and social change.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
HIST 8121|May not be taken concurrently.

HIST 8307. 20th Century Europe. 3 Credit Hours.
Discusses major events in 20th century Europe such as the origins of the First World War, the Bolshevik Revolution, the rise of fascism in Italy and Germany, World War II, and the subsequent collapse of European political dominance. Investigates the Cold War, the demise of communism in Eastern Europe, and the gradual economic and political establishment of the European Union. In addition to a standard historiographic study of these topics, the course includes developments in the "new cultural history" and the history of "representations" and "memory."

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8308. Imperialism. 3 Credit Hours.
To Lenin, imperialism was "the highest stage of capitalism," to Rudyard Kipling, "the white man's burden" and to Joseph Schumpeter, "the objectless disposition of a state to expansion by force without assigned limits." In this course, we both attempt to define imperialism and to understand the various ways in which historians and other scholars have approached the study of imperialism. Focusing primarily on the modern European empires, we examine imperialism from the perspective of economic, environmental, military, diplomatic and cultural history. We discuss Edward Said's extremely influential theory of orientalism and examine how contributions from historians of gender, scholars associated with the subaltern studies movement, and post-modern/post-colonial studies have influenced the field.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8400. Topics in 20th Century Germany. 3 Credit Hours.
Readings and discussions on selected topics in modern European history.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HIST 8401. European Expansion. 3 Credit Hours.
This course examines the growth and decline of the modern European empires from the eighteenth century through the present-day post-colonial world. We examine various theories of imperial expansion including economic, political, military and cultural and look at specific topics such as gender and imperialism, post-coloniality, subalternity and resistance, colonial nationalism, and interactions between metropole and empire. The texts we use range from some of the classic works on European imperialism to more recent texts in the fields of literary criticism, cultural studies and anthropology, as well as history.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
HIST 8402. Jewish History. 3 Credit Hours.
Students who enroll in this class are given an opportunity to analyze the cultural, economic, political, religious, and social history of the Jewish people. Special attention is paid to gender and secular ways of being Jewish.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8403. History of European Military Policy. 3 Credit Hours.
Introduces the literature and problems of Europe's military history since 1789. Examines both the practical and theoretical contributions of the battlefield, the cabinet room, and the individual military leader as theorist. Social and economic factors are also considered.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8501. Introduction to the Third World. 3 Credit Hours.
An introduction to the historical issues and literature concerning broad thematic areas of Third World life such as imperialism, economic development, global economic organization, peasant life, urbanization, migration, nationalism, cultural and social change, the role of the state, and international relations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8502. Vietnam War Studies. 3 Credit Hours.
This reading seminar explores the significant English- and French-language historical literature on the "Vietnam wars," considered in the large sense of the political and military struggles from 1945 to 1991 for control of the Indochina peninsula.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8505. Studies in Latin American History. 3 Credit Hours.
Examines Latin America in the age of the Cuban Revolution and beyond, covering the array of new historical literature that continues to emerge concerning the Revolution itself, the rise and fall of insurgencies and national security states in many parts of Latin America, and the more recent period of incomplete establishment of democracy and accountability.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8506. Studies in Spanish and Portuguese America. 3 Credit Hours.
From an empire-wide perspective, this course will analyze this encounter and its consequences and place both in historiographic context. The syllabus will proceed chronologically starting with the history of Spain and Portugal prior to the Conquest and continuing with the Conquest and reorganization of the American space. Rather than provide a detailed description of the historical episodes, however, the course will center around key processes affecting Iberian America, such as the rise of new societies and the transformation of indigenous cultures, the types of rule established by the Spanish and Portuguese, the economic relationship between the metropole and the new American kingdoms, slavery, race relations, the centralizing project of the eighteenth century, and the revolutions of the 1800s.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8610. Studies in Chinese History. 3 Credit Hours.
Surveys key issues and themes in modern Chinese history. Topics include: the ideology and politics of the China field; long-term patterns of change; peasant rebellions; imperialism; the nature of elite reform; the origins of the revolution; the Nationalists; militarism and state-building; rural revolution and communist success; the Maoist road to socialism.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
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**HIST 8701. Introduction to World History. 3 Credit Hours.**
A review of the concept of World History and its historiography; an introduction to materials now available to the study of World History; and an introduction to key themes and conceptual frameworks in the study of World History.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**HIST 8705. New Themes in the History of Slavery. 3 Credit Hours.**
Comparative social history of Atlantic-world slavery and Red Sea-Indian Ocean-Persian Gulf world-slavery. Slavery in other domains, such as the Mediterranean and Black Sea regions, will also be discussed.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**HIST 8706. Comparative Social and Economic History. 3 Credit Hours.**
A comparative examination of peasant politics and rural social movements with particular focus on the questions of class/community, alternative nationalisms, and revolution. Suitable for students of various disciplines and world areas.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**HIST 8707. History of Sexuality. 3 Credit Hours.**
Studies recent work on sexuality and its relation to gender, race, class, and power. The course's emphasis is on modern U.S. and Europe because that is where the most theoretically interesting recent work has been done, but the course will also look at the ancient world and pre-modern Europe, and consider cross-cultural.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**HIST 8711. History Writing and Editing. 3 Credit Hours.**
Training in the style and the mechanics of writing and editing history. Writing for wide audiences and for profit as well as for professional audiences.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**HIST 8712. Teaching History in College. 3 Credit Hours.**
Required of all teaching assistants and recommended for all graduate students interested in teaching on the college level. Methods of teaching are analyzed, including writing and delivering a lecture, leading a discussion, using audiovisual materials, writing exams, and techniques for grading.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**HIST 8713. The Historian and Society. 3 Credit Hours.**
Open to students in Temple's Public History Program and to matriculated graduate students in good standing, this course provides graduate credit for Public History Internships in selected Philadelphia-area historical societies, museums, and cultural institutions.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**HIST 8714. Historical Methods. 3 Credit Hours.**
This seminar is an introduction to the practice of professional history and to historical methodologies. One of the main purposes of the seminar is to familiarize its participants with the methodological and historiographical evolution of professional history. How has the approach of historians to their craft changed in the last century? What assumptions informed the decisions they have been made about how to study the past? In short, we study methodology because it is a way of approaching the questions that are central to historical scholarship: How do we know what has happened? How do we decide what matters? How do we best study the past? Whose version of history is authoritative?

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.
HIST 8800. Topics in History I. 3 Credit Hours.
Introduction to a variety of historical and normally comparative topics and themes in, such as environmental or psychological history.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HIST 8801. Cross-Cultural Encounters. 3 Credit Hours.
Readings and discussion of selected issues in the history of the interaction of various cultures and societies. Special attention is paid to issues of power.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8807. Comparative History - Modern War. 3 Credit Hours.
Beginning with the emergence of armies and navies that can be considered "modern" because of the professional educational qualification of their officers, this course examines the historical literature dealing with warfare and armed forces around the world from the 17th century to the present.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8809. World War II. 3 Credit Hours.
Relighting the military history of World War II, with the battles emphasized but placed in their diplomatic, political, and economic contexts. This course is designed as an introduction to graduate study in history for college graduates who have a basic knowledge of modern history. Through lectures and discussion, and with readings tailored to the interests of each student, the major issues of the causes, conduct, and significance of World War II will be raised and examined as they have emerged in debate among the participants in the events and historians.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 8810. Topics in History II. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HIST 8820. Topics in History III. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HIST 9153. Research - Archives and Manuscripts. 1 to 6 Credit Hour.
Second course of Archives sequence. Students, individually directed by the instructor, will undertake an in-depth research project. Investigations will concern some aspect of an operation or administration of archival institutions, or the care and preservation of records of historical significance.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
HIST 8153|May not be taken concurrently.

HIST 9187. Practicum - Archives and Manuscripts. 3 Credit Hours.
Students work for 12 hours per week at a local public or institutional archive or historical society which meets their own particular interest. Basic work in the standard professional archival operations with specific projects agreed upon between the student, the instructor, and the repository.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
HIST 8153|May not be taken concurrently.
HIST 9200. Seminar in American History. 3 Credit Hours.
General research and writing seminar in American history. Students engage in original research in a selected field and prepare an article-length paper; students also explore various research techniques and gain experience in writing and editing for publication.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HIST 9201. Seminar in American Colonial History. 3 Credit Hours.
Research in colonial American history, using resources locally available or by arrangement with the instructor. Research paper required, and seminar discussion of it. Topics open to negotiation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 9203. Seminar in the American Frontier. 3 Credit Hours.
This seminar surveys the history of the American West from the mid-eighteenth to the mid-twentieth century. The course emphasizes the reciprocity of social and environmental history; cultural interactions in the multi-ethnic West; and the iconography and ideology of the “frontier.”

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 9204. Cultural History Research Seminar. 3 Credit Hours.
A research seminar designed for advanced M.A. and Ph.D. students in the cultural history of the United States. Focusing on the past patterns of a peoples’ attitudes, values, and beliefs, and their interaction with the ways in which people actually behave, cultural history, broadly defined, is the study of cultural production. Specific subjects may include, among others, the study of literature and media; ritual (both religious and secular); or the construction of race and ethnicity, gender and sexuality. In this course, the primary emphasis will be on the research and writing of an article-length paper based principally on primary sources.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 9205. Seminar in African-American History. 3 Credit Hours.
Course covers topics in African American History and African American Women.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 9206. Seminar in U.S. Military Policy. 3 Credit Hours.
A survey of the major research issues and problems in the field, with each student required to write a research paper using primary sources.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 9208. Seminar in International History. 3 Credit Hours.
This research seminar explores a range of subjects in international history, with particular emphasis on 20th century diplomatic and military history. Research topics are not restricted to any geographic area. Students prepare an oral presentation and research paper on a specific subject of his/her choosing but approved by the instructor. The research utilizes some secondary but principally primary sources.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HIST 9209. Seminar in Modern American Social History. 3 Credit Hours.
Research seminar on race, ethnicity, gender, and poverty during the period of massive industrialization and urbanization, 1870-1940.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
HIST 9401. Seminar in European History. 3 Credit Hours.
Participants select a topic drawn from their own area of interest and prepare a research design (topic may be related to the dissertation). The literature in social history is discussed in conjunction with issues and questions encountered in participants' projects.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 9402. Seminar in 18th Century England. 3 Credit Hours.
This course examines themes in the history of England in the long eighteenth century, 1688 - 1815. Among the topics addressed are the role of war in the development of the state, conflict and stability in society, religion, and the cultural history of identity. Readings also treat England's connections to the rest of Britain, the empire, and the Atlantic world.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 9683. Readings in History. 3 Credit Hours.
Students who enroll in this course are given an opportunity to pursue an independent study of a topic of particular interest to them. Their work will be supervised by a member of the graduate faculty of the history department.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HIST 9783. Readings in History II. 3 Credit Hours.
Students who enroll in this course be given an opportunity to pursue an independent study of a topic of particular interest to them. Their work will be supervised by a member of the graduate faculty of the history department.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HIST 9801. Seminar in Comparative History. 3 Credit Hours.
A research and writing seminar on topics in comparative history. Most recently this seminar has analyzed the origins, development, and repercussions of nationalism from a world-historical, comparative and historiographic perspective. Another frequently stressed theme is comparative women's history. In addition to producing a primary-source based paper, integral to the seminar is discussion of research techniques, the historian's methodology, and the craft of history.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 9804. Seminar in Women's History. 3 Credit Hours.
The students' principal task in this seminar is the research, writing, and completion of an original paper, based on primary research, in United States Women's history. Research topics are of the students' choosing, subject to professor's approval.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIST 9898. Dissertation Colloquium. 1 to 3 Credit Hour.
For doctoral students writing dissertations and residing in the Philadelphia area. Provides a sense of community among dissertation writers, in which they can explore problems confronted in dissertation design, research, and writing, and find helpful comments and criticism at the time they are engaged in dissertation research. Prospectuses, outlines, and chapters may be offered to the group for discussion.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HIST 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
HIST 9996. Master’s Thesis. 1 to 3 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

HIST 9998. Pre-Dissertation Research. 1 to 6 Credit Hour.
Registration required each semester after Preliminary Examinations while researching the dissertation proposal.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

HIST 9999. Dissertation Research. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.
Repeatability: This course may be repeated for additional credit.

Horticulture (HORT)

Courses

HORT 8261. Native Woody Plant Identification. 3 Credit Hours.
This course focuses on the study of native trees, shrubs, and vines that are the foundation of natural and designed landscapes. Emphasis is on identification, culture, association, and appropriate use of plant communities. Students learn to identify a variety of native plants and their uses.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

HORT 8514. Landscape Restoration. 3 Credit Hours.
Students develop an ecologically based understanding of how to establish, restore, and manage meadows, forests, and wetland systems. The course emphasizes natural processes and how to integrate the built landscape with natural systems. Students also explore plant communities and wildlife habitats of Southeastern Pennsylvania. By the end of the course, students know the components of a restoration plan and have developed a plan for a real site.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
Pre-requisites:
HORT 8261|Minimum Grade of C-|May not be taken concurrently.

Human Resource Management (HRM)

Courses

HRM 5001. Leadership in Organizations. 3 Credit Hours.
HRM 5001 is designed to be a study of individual and group behavior in organizations and the means through which leaders can influence that behavior. Specifically, the course will consider key situations where effective leadership can materially contribute to the achievement of strategic organizational objectives. Students will be exposed to the research evidence on important drivers of employee performance and commitment - both direct (e.g., employee attitudes, motivation) and indirect (e.g., organizational culture, climate, leadership) - and learn about its practical application in the workplace. Emphasis will also be placed on improving self-awareness regarding the personal skills necessary to facilitate the positive workplace experiences of employees.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
HRM 5051. Human Resources Management Strategies. 3 Credit Hours.
The effective management of HR practices has an enormous effect on the organization's economic performance. Given the direct impact of HRM on cost, quality, and productivity, the success of any organization -- both traditional and virtual-- depends on the effectiveness of the decisions its managers make about strategic human resource issues. In this course, we will examine contemporary "best practices" in HR and what is known about how to improve the quality of strategic HR decision-making. In doing so, we will review how high performance organizations manage such HR issues as compensation, staffing, labor-management relations, work system design, performance management, training, equal opportunity employment, HR outsourcing, and change management.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

HRM 5052. Ethical Decisions in Business. 1.5 Credit Hour.
This course looks at business in the context of its various stakeholders, including shareholders, management, employees, customers, suppliers, government regulators and local/national/global communities. It explores a range of issues from the role of business in society at large to the ethical dimensions of ordinary business decision-making.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRM 5053. Effective Organizational Communication. 1.5 Credit Hour.
This course examines the corporate communication process as it relates to various management/organizational theories and practices. Specifically, students will examine the various purposes and requirements of communication for enhancing workplace cooperation, co orientation, adaptation and performance.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRM 5054. Leadership Development. 3 Credit Hours.
This course is designed to be a study of human behavior in organizations and the means through which managers can influence that behavior. Specifically, the class will consider key situations where the effective exercise of leadership can materially contribute to the achievement of strategic organizational objectives. The leadership process will be considered within a business environment increasingly characterized by global competition, economic turmoil, rapid technological change and shifting labor market dynamics. Emphasis will be placed on identifying and developing the personal skills and perspectives necessary to establish and maintain a leadership position (e.g., self-awareness and abilities in such areas as communication, decision-making, problem solving and behavioral management).

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRM 5101. Leadership in Complex Organizations. 3 Credit Hours.
This course explores the leadership dimensions at the individual and team level while exploring leadership processes and complex adaptive leadership at the team and organizational level. This includes concepts such as change management, organizational learning, leadership development, and team development. Critical thinking skills are developed as students actively engage in understanding organizational complexity and the concepts that effectively guide complex organizations to desired outcomes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

HRM 5111. Organizational Communication and Information Management. 3 Credit Hours.
Focuses on building personal communication capabilities and understanding the nature and scope of organizational communication/information management in organizational effectiveness.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
HRM 5112. Leading High Performing Teams. 3 Credit Hours.
Considers ways to develop and sustain productivity in individuals and work groups. Examines effective strategies for group formation, goal setting, delegation, and handling group dynamics. Special challenges such as dealing with work force diversity.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRM 5113. Power, Influence, and Negotiation in Organizations. 3 Credit Hours.
Looks at how power, influence, and negotiation are related to effective leadership. Ethical and practical issues related to power and influence are discussed. Explores strategies for dealing with disputes and conflicts arising in organizations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRM 5114. Building Human Capital for High Performance Organizations. 3 Credit Hours.
This course approaches employee training and development as a means to enhance organizational effectiveness and innovation. It examines ways to transform a company's most valuable asset, its "human capital," and build effective organizational cultures that will sustain high performance during periods of environmental turbulence.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRM 5115. Talent Acquisition. 3 Credit Hours.
The course focuses on the challenges, tools and strategies that align with best practice in sourcing, assessing and selecting talent to meet business needs, including selection for hire and selection for promotion. Note: Prior to spring 2017, the course title was "Best Practices in Human Resources Management."

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRM 5116. Strategic Reward Systems. 3 Credit Hours.
An analysis of the strategic design of organizational reward systems, and how they contribute to organizational success. The emphasis will be on the design of reward systems to complement current trends in organizational design and strategy. The role of both financial as well as non-financial reward will be addressed. Designed for both HRA majors and non-majors.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRM 5117. Public Policy and Compliance. 3 Credit Hours.
Areas of investigation will include current issues and challenges, such as technology, law, global competition, employee relations, labor unions, and outsourcing. Note: Prior to summer 2017, the course title was "HR in a Dynamic Environment."

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRM 5118. Business Transformation through Big Data. 3 Credit Hours.
This course focuses on business transformation using data and data analytics as a source for business evaluation and decision making. Students will focus on key issues that are challenging businesses today, such as Healthcare Reform, Population Health and Cost and Productivity initiatives to better understand the impacts on their organizations and the market place. They will examine issues across the economy, evaluate the drivers for change, the risks and/or rewards of transformation, potential impacts to their workforce, culture, brand, policies and practices, as well as, explore technology tools, such as Human Capital Management Systems (HCMS) and data analytics required to develop and recommend transformational change to the business.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
HRM 5119. Human Resource Consulting. 3 Credit Hours.
This course is designed to support students who plan to work in Human Capital Management or Talent Management Consulting and Managers and Human Resource professionals who manage external HCMS and Talent Management consulting engagements as internal partners. This course is focused on building practical skills and knowledge that can be applied directly to identify and scope Talent Management consulting opportunities and to deliver and measure Talent Management consulting solutions that meet or exceed business goals. Students will learn how and where Talent Management consultants add value to organizations in diverse industry sectors and will participate in developing and managing TM consulting proposals and projects.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRM 5125. Strategic Challenges in Human Resources. 3 Credit Hours.
A strategic analysis of the design the HR function and organization to manage the human side of the enterprise. Using case study, this course identifies optimal practice to assure that the HR function helps to maximize the competitive advantage of the organization. Designed for both HRA majors and non-majors.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRM 5131. Ethics and Social Responsibility in Organizations. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRM 5141. Coord & Control in Virt Org. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRM 5155. Human Resource Management in a Global Environment. 3 Credit Hours.
Focuses on the role of culture in determining effective human resource management strategies. Addresses many of the problems and issues arising around the acquisition, development, organization and management of human resources on an international scale.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRM 5161. Special Topics: Human Resource Management. 1 to 6 Credit Hour.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HRM 5182. Independent Study. 1 to 3 Credit Hour.
Special study in a particular aspect of human resource administration under the direct supervision of an appropriate graduate faculty member.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
HRM 5301. Human Capital and Organizational Change. 1.5 Credit Hour.

Strategic Human Capital and Organizational Change is designed to help participants better understand how organizations use human capital strategies to drive firm performance, engender change, and build an aligned organizational culture. In doing so, a general management perspective is emphasized throughout the course regarding the design of human capital strategy and how the execution of such plays an essential role in achieving sustainable competitive advantage. By analyzing firm-level case studies, this course will illustrate how contemporary practices (e.g. talent acquisition, compensation, performance management, global management related to human capital issues, HR service outsourcing, talent development, etc.) determine an organization’s culture and, in turn, how organization culture is key to determining a firm’s cost, quality, productivity, and customer service. The central focus will involve a general management perspective on assessing the linkage or fit between firm strategy and human capital practices. As a result, a key activity throughout the course will involve firm-level case assessments of the alignment or mis-alignment between the firm’s business model and its human capital strategy.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

HRM 5302. Ethical Management. .5 to 3 Credit Hours.

This course challenges students to consider the ethical obligations of corporations and their employees to a wide variety of societal stakeholders. Students are exposed to a broad range of ethical dilemmas that can arise in the business world and are offered the tools and taught the skills to respond to such dilemmas. Most significantly, the course encourages students to critically examine a preeminent societal institution of which they are a part, with the possibility that they can ultimately be forces for positive change. The course includes a challenge that requires students to interview a wide array of stakeholders invested in a controversial, contemporary issue with business import - and to make a business or policy recommendation based on insights gleaned from this primary research.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may be repeated for additional credit.

HRM 5303. Influential Communication in Complex Organizations. 1.5 Credit Hour.

This course is based on the premise that communication is an integral dimension of leadership and organizational effectiveness. Research suggests that approximately 75% of manager behaviors involve some form of communication. Influential organizational communication, from informal conversation to formal presentations, increases management’s ability to connect to, motivate, guide, and inspire employees and other relevant stakeholders. As noted by communication expert, Roy Foltz, "Organizational communication is the vital link in the chain of events that is the process of managing a business. It is the single factor that makes an organization viable, successful, effective, enduring."

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

HRM 5304. Leading in Complex Organizations. 1 to 3 Credit Hour.

Effective Leadership has been shown to have a strong, positive correlation with business outcomes such as profitability, shareholder value, revenue growth, turnover reduction, engagement, commitment, motivation, and loyalty. Leadership concepts provide a foundation for effective long-term, profitable business performance. Strong business leaders possess a global, integrated, cross-functional business perspective which is founded, grounded, shaped and continuously enhanced by solid leadership principles and processes.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may be repeated for additional credit.

HRM 5305. Influence & Negotiation. 1.5 Credit Hour.

This course examines the process and outcomes of using power, influence, and negotiation in interpersonal relations, in groups and organizations, and cross-culturally in international business. It explores negotiation styles for effective leadership, resolving conflicts, and achieving personal and organizational goals. Ethical and practical issues related to power and influence are discussed.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.
HRM 5306. Interpersonal & Cross-Cultural Negotiation. 1.5 Credit Hour.
Continuation of HRM 5305. Further explorations in the negotiation process, focusing on the skills needed for interpersonal and cross-cultural negotiation effectiveness. The major project involves a complex cross-cultural negotiation simulation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
HRM 5305/Minimum Grade of B-/May be taken concurrently.

HRM 5401. Human Capital and Organizational Change. 1.5 Credit Hour.
Strategic Human Capital and Organizational Change is designed to help participants better understand how organizations use human capital strategies to drive firm performance, engender change, and build an aligned organizational culture. In doing so, a general management perspective is emphasized throughout the course regarding the design of human capital strategy and how the execution of such plays an essential role in achieving sustainable competitive advantage. By analyzing firm-level case studies, this course will illustrate how contemporary practices (e.g. talent acquisition, compensation, performance management, global management related to human capital issues, HR service outsourcing, talent development, etc.) determine an organization’s culture and, in turn, how organization culture is key to determining a firm’s cost, quality, productivity, and customer service. The central focus will involve a general management perspective on assessing the linkage or fit between firm strategy and human capital practices. As a result, a key activity throughout the course will involve firm-level case assessments of the alignment or mis-alignment between the firm’s business model and its human capital strategy.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRM 5402. Ethical Management. 1.5 Credit Hour.
This course challenges students to consider the ethical obligations of corporations and their employees to a wide variety of societal stakeholders. Students are exposed to a broad range of ethical dilemmas that can arise in the business world and are offered the tools and taught the skills to respond to such dilemmas. Most significantly, the course encourages students to critically examine a preeminent societal institution of which they are a part, with the possibility that they can ultimately be forces for positive change. The course includes a challenge that requires students to interview a wide array of stakeholders invested in a controversial, contemporary issue with business import - and to make a business or policy recommendation based on insights gleaned from this primary research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRM 5403. Influential Communication in Complex Organizations. 1.5 Credit Hour.
This course is based on the premise that communication is an integral dimension of leadership and organizational effectiveness. Research suggests that approximately 75% of manager behaviors involve some form of communication. Influential organizational communication, from informal conversation to formal presentations, increases management’s ability to connect to, motivate, guide, and inspire employees and other relevant stakeholders. As noted by communication expert, Roy Foltz, “Organizational communication is the vital link in the chain of events that is the process of managing a business. It is the single factor that makes an organization viable, successful, effective, enduring.”

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRM 5404. Leading in Complex Organizations. 1.5 Credit Hour.
Effective Leadership has been shown to have a strong, positive correlation with business outcomes such as profitability, shareholder value, revenue growth, turnover reduction, engagement, commitment, motivation, and loyalty. Leadership concepts provide a foundation for effective long-term, profitable business performance. Strong business leaders possess a global, integrated, cross-functional business perspective which is founded, grounded, shaped and continuously enhanced by solid leadership principles and processes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
HRM 5405. Influence & Negotiation. 1.5 Credit Hour.
This course examines the process and outcomes of using power, influence, and negotiation in interpersonal relations, in groups and organizations, and cross-culturally in international business. It explores negotiation styles for effective leadership, resolving conflicts, and achieving personal and organizational goals. Ethical and practical issues related to power and influence are discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRM 5406. Interpersonal & Cross-Cultural Negotiation. 1.5 Credit Hour.
Continuation of HRM 5405. Further explorations in the negotiation process, focusing on the skills needed for interpersonal and cross-cultural negotiation effectiveness. The major project involves a complex cross-cultural negotiation simulation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
HRM 5405 Minimum Grade of B- May be taken concurrently.

HRM 5802. Leading and Managing Teams and Individuals. 2 to 3 Credit Hours.
By exploring the interpersonal dynamics of individuals and groups, you'll hone your leadership skills and our ability to create cohesive teams with collective investment in reaching goals. You'll be better able in both traditional and virtual organizations to: manage conflict, dependency issues and difficult personalities; listen effectively and present yourself and your ideas to others; and manage virtual employees.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRM 5804. Managing and Developing Human Capital in the Enterprise. 2 to 3 Credit Hours.
In this course, you'll increase your ability to manage people and maintain a view of the human resource function as an integral part of a total enterprise in both traditional and virtual organizations. You'll address practical issues of human resource management, such as planning and executing staffing strategies, maintaining influence in the organization, managing the multicultural work force, managing programs for productivity improvement, and planning and managing the human side of organizational change.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRM 5882. Independent Study. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credits.

HRM 5890. Special Topics. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HRM 9001. Managing Human Resources. 3 Credit Hours.
Current research on human resource management topics, including recruitment and selection, socialization, job planning, training and development, performance appraisal, job analysis, careers, labor-management relations, industrial conflict, and unionization.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRM 9002. Managing Work Behavior and Attitude. 3 Credit Hours.
Focuses on human behavior within the context of organization systems. Topics covered are motivation, attitudes, job performance, job design, satisfaction, commitment and turnover. Applications of psychological and social-psychological theories.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
HRM 9003. Organization and Environment. 3 Credit Hours.
Focuses on organization structure, design, control, culture, and interorganizational relationships. Examines contingency, resource dependency, population ecology, institutional, agency and transaction cost theories of organizations. Considers public policy and social responsibility from stakeholder perspective.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRM 9004. Dynamics of Organizational Interaction. 3 Credit Hours.
Theory and research on interactions between individuals within organizations. Topics include communication, groups, leadership, power and influence, negotiation and conflict resolution, and innovation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRM 9006. Doctoral Seminar in Meta-analysis and Research Synthesis Methods. 3 Credit Hours.
Meta-analysis is aimed at the synthesis and generalization of primary research findings that seem to conflict with one another to draw simple yet significant conclusions. The essence of meta-analysis is that it is the research process of cumulating and synthesizing effect sizes (e.g., correlations) of a number of primary studies on the same topic by the application of research, measurement, and statistical techniques as normally addressed in a typical primary study (i.e., problem selection, hypothesis formulation, definition and measurement of constructs and variables, sampling, coding, and data-analysis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HRM 9011. Pro-Seminar in Human Resource Management and Organization Behavior. 1 to 3 Credit Hour.
Socializes students about the process of conducting and publishing research in HRM/OB. Includes guest speakers to discuss topics such as designing a research stream, conducting a project from start to finish, differences in journal quality and requirements to publish at different levels, presenting research well, the art of constructive peer review, and keys to effective academic writing.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HRM 9021. Current Readings in Human Resource Management and Organizational Behavior. 3 Credit Hours.
This course examines emerging themes in the contemporary Human Resource Management and Organizational Behavior (HRM/OB) literature. Each week we will critically analyze articles that exemplify a current topical or methodological theme in the premier HRM/OB journals. The course will focus on articles that have been recently accepted or published within the current calendar year. The goal of this course is to gain a discussion-based seminar that will require significant class preparation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

HRM 9090. Special Topics. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may be repeated for additional credit.

HRM 9183. Directed Study in Human Resource Administration. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Human Services (HS)
Courses

HS 8701. Introduction to Play Therapy. 3 Credit Hours.
This course provides the theoretical basis for play therapy and is the first course in the Post Graduate Certificate in Play Therapy program. It offers an overview of the essential theories and principles of play therapy, and provides an arena for the direct comparison of the major theoretical models of play therapy and their implications for treatment. In addition, the course teaches the history of play therapy, as required by the Association of Play Therapy for registration as a play therapist. Students learn the role of the play therapist in a variety of settings, the stages of the play therapy relationship, the evolving research that guides play therapy interventions, the basic play therapy skills and the training/supervision guidelines. Foundational to this course is the belief that involvement of family in the treatment of children is imperative, however uniquely family is defined. An experiential component will focus on exposure to basic play therapy skills through observation of local professionals, instructors or videotaped experts performing play therapy. The course develops play therapy practice skills and an understanding of theoretical approaches of play therapy at the level required for eventual registration as a play therapist.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HS 8805. Play Therapy Techniques. 3 Credit Hours.
This course provides an understanding of the essential elements and principles of several primary techniques of conducting and evaluating play therapy including filial therapy, family play therapy and group play therapy. An experiential component will focus on play therapy techniques and skill development within the context of ethical and diversity sensitive practice. The content will contain materials to develop play therapy practice skills and an understanding of in depth approaches of play therapy at the level required for eventual registration as a play therapist.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HS 8806. Play Therapy Applications for Special Populations. 3 Credit Hours.
This course provides theoretical and applied skills for the treatment of special populations, including children who have been neglected, physically or sexually abused or otherwise traumatized, as well as children who are trying to cope with parental loss as a result of divorce, death or abandonment. Play Therapy with children who have special physical or developmental needs will also be explored, including children with medical problems, chronic or terminal illness, and/or challenging psychopathology such as autism. The content will contain materials to develop practice skills at the level required for eventual registration as a play therapist.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HS 8807. Advanced Play Therapy Practice. 3 Credit Hours.
This course further develops and synthesizes the subject matter in the previous three courses, to prepare students for the challenges of moving into practice. It provides an in-depth review of the advanced elements and principles of play therapy, including the ethical and legal issues of therapy with children and adolescents, attachment issues and disorders of children, children diagnosed with serious mental illness, children and resiliency, play therapy in schools, hospitals, and other host settings, sand tray therapy, and play therapy across the lifespan. The goal of this course is to further prepare play therapists for the special issues that are likely to be confronted in everyday practice, as well as expansion of skills for eventual work as a supervisor. The content will contain materials to develop advanced play therapy practice skills and an understanding of in depth approaches of play therapy at the level required for eventual registration as a play therapist.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
HS 9001. Advanced Play Therapy Seminar. 3 Credit Hours.
This is the final course within the graduate play therapy certificate program. It is an advanced seminar in Play Therapy theory and practice. The goal of this course is to increase each student's effectiveness with and knowledge of play therapy through intensive study of theoretical approaches to play therapy with an emphasis on the dimensions of the process (i.e., the student's understanding of children's behavior and their perceptions of self, the client and the therapeutic play relationship). Students have supervised opportunities to discuss and examine the value conflicts and ethical dilemmas that arise in the practice of play therapy with vulnerable populations. This course reviews the use of play therapy practice strategies, approaches, and collaborative interventions. Students will learn about different methods of practice assessment and evaluation and will be able to select appropriate forms of evaluation for use in their practice. Throughout the seminar, students will have exposure to and/or involvement in mock play therapy sessions, group supervision of a play therapy session, and supervision of play therapy sessions. This will provide students with opportunities to process the clinical experience of play therapy with emphasis on advanced skill development, assessment, treatment planning, intervention and evaluation of practice. In short, this seminar sets the stage for transition from the learning environment to professional practice as a play therapist. Students have the opportunity to practice skills in simulated settings; field settings may be available. Lecture, large group discussion, role playing, group supervision, video demonstration and participation on play therapy session labs are primary methods of instruction.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

International Business Administration (IB)

Courses

IB 5501. IB Theory & Practice. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ACCT 5001|Minimum Grade of B-|May not be taken concurrently
AND ECON 5001|Minimum Grade of B-|May not be taken concurrently
AND FIN 5001|Minimum Grade of B-|May not be taken concurrently
AND MIS 5001|Minimum Grade of B-|May not be taken concurrently
AND MKTG 5001|Minimum Grade of B-|May not be taken concurrently
AND MSOM 5001|Minimum Grade of B-|May not be taken concurrently
AND STAT 5001|Minimum Grade of B-|May not be taken concurrently)

IB 5502. International Marketing. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MKTG 5001|Minimum Grade of B-|May not be taken concurrently
OR (MKTG 5401|Minimum Grade of B-|May not be taken concurrently
AND MKTG 5402|Minimum Grade of B-|May not be taken concurrently)
OR (MKTG 5301|Minimum Grade of B-|May not be taken concurrently
AND MKTG 5302|Minimum Grade of B-|May not be taken concurrently)

IB 5511. International Management. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ACCT 5001|Minimum Grade of B-|May not be taken concurrently
AND ECON 5001|Minimum Grade of B-|May not be taken concurrently
AND FIN 5001|Minimum Grade of B-|May not be taken concurrently
AND MIS 5001|Minimum Grade of B-|May not be taken concurrently
AND MKTG 5001|Minimum Grade of B-|May not be taken concurrently
AND MSOM 5001|Minimum Grade of B-|May not be taken concurrently
AND STAT 5001|Minimum Grade of B-|May not be taken concurrently)
IB 5535. Intl Financial Markets. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FIN 5001|Minimum Grade of B-|May not be taken concurrently
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently)

IB 5536. Intl Corporate Finance. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
FIN 5001|Minimum Grade of B-|May not be taken concurrently
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently)

IB 5570. Special Topics. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

IB 5580. Special Topics. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

IB 5582. Independent Study. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

IB 5590. Special Topics: Intl Bus. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

IB 5882. Independent Study. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

IB 5890. Special Topics. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

IB 9001. Theory-Int Bus & Mitinat. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
IB 9002. Empirical Research in International Business. 3 Credit Hours.
The course is designed to provide an introduction to issues relevant to international business/cross-national/cross-cultural research. We will investigate basic elements of research theory, constructs, measures, data collection and analysis, and other elements of international business research. While the underlying objective of this course is to familiarize you with basic tools in IB research, a higher-level goal is to provide hands-on experience of conducting high quality original research.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Philosophy.
**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

IB 9090. Spec Topic Intl Bus. 1 to 6 Credit Hour.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

IB 9183. Directed Study in International Business. 3 Credit Hours.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Philosophy.
**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may be repeated for additional credit.

## International Teaching Assistants (ITA)

### Courses

ITA 5221. Eng for Foreign Students. 3 Credit Hours.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

## Journalism (JRN)

### Courses

JRN 5001. Crit Perspectives Journ. 3 Credit Hours.
This course examines the concepts and functions of journalism in American society. Students explore underlying values associated with journalism, relationships among journalism and other social institutions, and current issues facing journalists. Students will also examine the nature of journalistic content.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

JRN 5002. Reporting and Writing I. 4 Credit Hours.
Accelerated, in-depth instruction in various forms of writing, nature of news, structuring news stories, style, information gathering, copy editing fundamentals, with emphasis on multimedia reporting.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

JRN 5004. Computer-Assisted Reporting and Research. 4 Credit Hours.
Computer-based exploration of the Internet, World Wide Web, databases and on-line libraries to develop information gathering and presentation skills. Research approaches and data analysis emphasized.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.
JRN 5005. Communication Law. 3 Credit Hours.
Legal and philosophical study of government regulation of information transmission from 15th century to the present. Emphasis on legal descriptive research methods.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

JRN 5012. Reporting and Writing II. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
JRN 5002|Minimum Grade of B-|May not be taken concurrently.

JRN 5013. Editing the News II. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
JRN 5003|Minimum Grade of B-|May not be taken concurrently.

JRN 5102. International Reporting. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
JRN 5002|Minimum Grade of B-|May not be taken concurrently.

JRN 5121. Magazine Writing. 3 Credit Hours.

Intended for graduate students who want to write non-fiction for a variety of publications and outlets. It will examine the styles of various writers and publications; development of ideas into saleable magazine articles for major periodical publications.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
JRN 5002|Minimum Grade of B-|May not be taken concurrently.

JRN 5151. Literary Writing in Journalism. 3 Credit Hours.

This graduate-level course will examine the 50-year trend, begun by the New Journalism of the 1960s, which uses the storytelling techniques of fiction and the documentation of journalism to create works of powerfully-told emotional truth.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
JRN 5002|Minimum Grade of B-|May not be taken concurrently.

JRN 5201. The American Magazine. 4 Credit Hours.

Analysis of content, editorial policy and trends in American magazine journalism; discussion of publishing procedures; marketing, circulation, and advertising problems; reader research. Class project: create prototype issue of magazine, with prospectus, advertising, and promotional materials.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
JRN 5001|Minimum Grade of B-|May not be taken concurrently.
JRN 5211. Media Management. 4 Credit Hours.
Comparison of the organizational structures of news media; editorial content, advertising, circulation, and business aspects.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
JRN 5001|Minimum Grade of B-|May not be taken concurrently.

JRN 5212. The Entrepreneurial Journalist. 3 Credit Hours.
New opportunities exist for aggressive journalists. In this course, we'll discuss the various ways to be a content generator - from freelancing to blogging, from starting magazines and newspapers to creating multimedia web sites.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
JRN 5001|Minimum Grade of B-|May not be taken concurrently.

JRN 5213. Solutions Journalism. 3 Credit Hours.
This course introduces students to the practice of solutions-oriented reporting, an outcome-focused form of journalism, and assesses its impact on communities and issues. Students will develop reporting projects on specific solutions-based themes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

JRN 5221. Journalism and Mass Communication History. 3 Credit Hours.
Study of the technological and social development of communication systems from ancient to present times with emphasis on historical/descriptive research methods.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
JRN 5001|Minimum Grade of B-|May not be taken concurrently.

JRN 5251. Mass Communication Research Methods. 4 Credit Hours.
This course offers a study of the methods for researching journalism and mass communication, including quantitative and qualitative approaches.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

JRN 5252. Models of Journalism Around the World. 3 Credit Hours.
This course introduces students to current issues, debates, and practices relating to the dissemination of news in a global context. We will first examine and discuss the key theoretical concepts associated with the creation, distribution, and reception of news in an increasingly global environment, as well as the broader debates surrounding issues of transnational influence. In the second half of the semester, we will take a closer look at the current nature and organization of media systems in various parts of the world through a number of case studies. By the end of the semester students will be familiar with the global context in which news is produced and distributed, and demonstrate a critical understanding of the challenges and concerns facing both American journalists covering international issues and foreign journalists operating in different media environments.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
JRN 5001|Minimum Grade of B-|May not be taken concurrently.
JRN 5301. Introduction to Urban Journalism. 3 Credit Hours.
This course is a bootcamp designed to ensure all incoming students have the skills necessary to dive into the Urban Reporting Lab in the fall semester. It covers (1) News literacy: how consume news, and why. What is a news story? How does it get produced? What should it accomplish? (2) Storytelling tools: an overview of the mediums and technologies involved in multimedia storytelling.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

JRN 5302. Urban Reporting Lab 1. 6 Credit Hours.
This is a coached, multimedia news production class in which students cover urban issues, publishing their work on the lab's news site and developing areas of individual expertise. This work is continued in JRN 5305, Urban Reporting Lab 2.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

JRN 5303. Journalism Concepts. 3 Credit Hours.
This weekly seminar gives students an overview of the norms and philosophies that guide journalistic practice, with a particular emphasis on journalism's role in the social, cultural, political and historical fabric of the city. Students will learn about the professional concepts that will guide their work as journalists while also understanding how those concepts have developed over time and contribute to journalism's role in society.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

JRN 5304. Editing the News. 3 Credit Hours.
Accelerated, in-depth instruction in AP style, copy editing, legal problems of the editor, editorial judgment, accuracy, fairness, clarity, balance in copy, headline writing, fundamentals of page makeup and design, use of photography, tables, graphs, charts and maps.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

JRN 5305. Urban Reporting Lab 2. 6 Credit Hours.
This course is a continuation of Urban Reporting Lab 1. Students work together to tackle a single, urban problem, issue, or topic that the class chooses together, producing a regular stream of news to be published on a collectively owned, multimedia, data-centric class website. Students may hone a chosen specialization through this course by having a particular role in the class project.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
JRN 5302|Minimum Grade of B-|May not be taken concurrently.

JRN 5306. Journalism and the Public Interest. 3 Credit Hours.
This course prepares students to work in an ethical way as responsible members of their profession and their communities. It covers the ethical aspects of technological and economic change, the main legal issues that journalists face, the challenges of reporting on powerful institutions, and journalists' obligations to their subjects and audiences.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

JRN 5307. Capstone Reporting Experience. 3 Credit Hours.
In this class, students do their own independent reporting projects, within an area of specialization if appropriate. The goal is to produce a journalistic masterwork (analogous to a thesis) that will lead to professional publication.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
JRN 5601. Temple Journalism Review. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(JRN 5012|Minimum Grade of B-|May not be taken concurrently
AND JRN 5013|Minimum Grade of B-|May not be taken concurrently)

JRN 5602. Documentary Journalism. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(JRN 5012|Minimum Grade of B-|May not be taken concurrently
AND JRN 5013|Minimum Grade of B-|May not be taken concurrently)

JRN 5603. Urban Reporting Lab. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(JRN 5012|Minimum Grade of B-|May not be taken concurrently
AND JRN 5013|Minimum Grade of B-|May not be taken concurrently)

JRN 5700. Seminars in Communication. 4 Credit Hours.
Special-topic courses in a broad range of communication areas including print and broadcast news, magazines, and new technologies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

JRN 5710. Seminars in Communication. 4 Credit Hours.
Special-topic courses in a broad range of communication areas including print and broadcast news, magazines, and new technologies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

JRN 5720. Seminars in Communication. 4 Credit Hours.
Special-topic courses in a broad range of communication areas including print and broadcast news, magazines, and new technologies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

JRN 5730. Seminars in Communication. 3 Credit Hours.
Special-topic courses in a broad range of communication areas including print and broadcast news, magazines, and new technologies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

JRN 5740. Seminars in Communication. 4 Credit Hours.
Special-topic courses in a broad range of communication areas including print and broadcast news, magazines, and new technologies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

JRN 5750. Seminars in Communication. 4 Credit Hours.
Special-topic courses in a broad range of communication areas including print and broadcast news, magazines, and new technologies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
JRN 5760. Seminars in Communication. 4 Credit Hours.
Special-topic courses in a broad range of communication areas including print and broadcast news, magazines, and new technologies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

JRN 5770. Seminars in Communication. 3 Credit Hours.
Special-topic courses in a broad range of communication areas including print and broadcast news, magazines, and new technologies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

JRN 5780. Seminars in Communication. 4 Credit Hours.
Special-topic courses in a broad range of communication areas including print and broadcast news, magazines, and new technologies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

JRN 5790. Seminars in Communication. 3 Credit Hours.
Special-topic courses in a broad range of communication areas including print and broadcast news, magazines, and new technologies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

JRN 5800. Seminars in Communication. 3 Credit Hours.
Special-topic courses in a broad range of communication areas including print and broadcast news, magazines, and new technologies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

JRN 5810. Seminars in Communication. 2 Credit Hours.
Special-topic courses in a broad range of communication areas including print and broadcast news, magazines, and new technologies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

JRN 5820. Seminars in Communication. 2 Credit Hours.
Special-topic courses in a broad range of communication areas including print and broadcast news, magazines, and new technologies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

JRN 5890. Seminars in Communication Abroad. 6 Credit Hours.
Subject matter and location vary each semester. Please consult the Course Schedule for further information.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

JRN 5982. Directed Projects. 1 to 8 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

JRN 5983. Directed Readings Comm. 1 to 4 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
JRN 5986. Internship. 1 to 4 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Kinesiology (KINS)

Courses

KINS 5141. Anatomy for Orthopedic Assessment. 1 Credit Hour.
This 1 credit hour course will focus on pertinent anatomical landmark identification and palpation for clinical evaluation of athletic injuries and conditions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

KINS 5142. Foundations of Athletic Training. 4 Credit Hours.
Through lecture and laboratory exercises, the student will obtain both didactic information and practical application of athletic training skills, including basic taping and bracing techniques, acute and emergency management, stretching, and equipment fitting and removal. Additionally, legal and ethical issues will be addressed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

KINS 5143. Orthopedic Assessment I. 3 Credit Hours.
This required course will focus on the key concepts of evaluation, diagnosis, and management of lower extremity sports-related injuries. Students will be able to use an evidence-based approach to identify, explain, and assess pathologies of musculoskeletal injuries in the lower extremity and apply these concepts in real-life athletic training scenarios.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

KINS 5202. Biomechanical Skeletal Tissue. 3 Credit Hours.
This course offers an in-depth examination of the structure, composition, and material behavior of the basic skeletal tissues, including bone, cartilage, tendon, ligament, and muscle. The pathomechanics of injury, adaptation to loading, and degenerative changes associated with aging are analyzed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

KINS 5237. Racial Minorities and Sport. 3 Credit Hours.
This dual-level course focuses on the positions and roles of African American and other persons of color in American sport. Topics to be covered assist in consciousness raising of both white students and students of color to the unique experiences and challenges of racial minority participants in sport.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

KINS 5239. Self-Development and Sport. 3 Credit Hours.
This group process experiential course focuses the student's attention on the patterns and practices of her/his own sport or exercise. Assessments of satisfaction and areas for change are followed by action plan development for future experiences.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
KINS 5244. Orthopedic Assessment II. 3 Credit Hours.
This is a required three credit hour course that will focus on the key concepts of evaluation, diagnosis, and management of upper-extremity and axial skeleton sports-related injuries. Students will be able to use an evidence-based approach to identify, explain, and assess pathologies of musculoskeletal injuries in the upper extremity and axial skeleton and apply these concepts in real-life scenarios.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
KINS 5143|Minimum Grade of B|May not be taken concurrently.

KINS 5245. General Medical Conditions in Athletic Training. 3 Credit Hours.
This course will focus on the key concepts of evaluation, diagnosis, and management of general medical conditions commonly seen in the athlete. Students will be able to use an evidence-based approach to identify, explain, and assess pathologies and apply these concepts in real-life scenarios.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Co-requisites: KINS 5246.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
KINS 5142|Minimum Grade of B|May not be taken concurrently.

KINS 5246. General Medical Conditions in Athletic Training Laboratory. 1 Credit Hour.
This course will focus on the practical application of diagnostic and assessment techniques for general medical conditions. Students will use auscultation, palpation, urinalysis, diabetic screening tools, anthropometric measurements, and otoscopes and ophthalmoscopes and calculate reliability among groups.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Co-requisites: KINS 5245.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
KINS 5142|Minimum Grade of B|May not be taken concurrently.

KINS 5247. Leadership for the Entry-Level Athletic Trainer. 1 Credit Hour.
This 1 credit hour course will focus on the history of athletic training and its continued growth as a healthcare profession. Students will determine their leadership style and practice conflict resolution skills.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Sci in Athletic Train.

Repeatability: This course may not be repeated for additional credits.

KINS 5287. Practicum in Athletic Training I. 3 Credit Hours.
This course accompanies the first of four clinical experiences in the athletic training curriculum in order to further develop and enhance the practical skills and knowledge necessary for clinical practice. Students will review and demonstrate lower extremity injury evaluations, foundational athletic training skills, and emergency management techniques.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(KINS 5142|Minimum Grade of B|May not be taken concurrently)
AND (KINS 5143|Minimum Grade of B|May not be taken concurrently)
KINS 5311. Physiology of Exercise. 3 Credit Hours.
This course is a survey of the broad spectrum of exercise physiology. The physiology concepts presented are applied to research, rehabilitation, preventive medicine, and coaching. Such topics as nutrition and performance, weight control, stress testing, and ergogenic aids are discussed in detail. Basic laboratory techniques and classical experiments are demonstrated.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

KINS 5312. Exercise and Nutrient Metabolism. 3 Credit Hours.
The scientific principles controlling the relationship between exercise, nutrition, and weight control are examined. Special emphasis is directed toward the practical application of these principles for the development of individualized weight control programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

KINS 5313. Exercise and Aging. 3 Credit Hours.
This course offers a study of the potential influence of exercise on the aging process. The scientific principles that govern aging processes and the influences of exercise on these processes are reviewed as well as the development of exercise programs for geriatric populations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

KINS 5441. Therapeutic Modalities in Athletic Training. 4 Credit Hours.
Through lecture and laboratory exercises, the student will be able to identify indications and contraindications, appropriately apply, and utilize therapeutic guidelines for thermal, electrical and mechanical agents used in the management of athletic injuries. Upon completion of the 4-credit course, students will be able to use an evidence-based approach to create a successful therapeutic modality program for an injured physically active individual.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Sci in Athletic Train.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
KINS 5244|Minimum Grade of B|May not be taken concurrently.

KINS 5442. Therapeutic Exercise in Athletic Training. 4 Credit Hours.
Through lecture and laboratory exercise, the student will summarize the injury process, discuss current surgical techniques and utilize various rehabilitation exercises to ensure a safe return to activity. Upon completion of this 4-credit course, students will be able to use an evidence-based approach to create a successful rehabilitation program for an injured physically active individual.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Sci in Athletic Train.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
KINS 5244|Minimum Grade of B|May not be taken concurrently.

KINS 5443. Organization and Administration in Athletic Training. 3 Credit Hours.
This three-credit hour lecture/seminar course will focus on the aspects of professional management and administrative issues in athletic training, including program management, human resources, insurance, risk management, ethics, pre-participation examinations and facility design.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
KINS 5247|Minimum Grade of B|May not be taken concurrently.
KINS 5487. Practicum in Athletic Training II. 3 Credit Hours.
This 3-credit course is designed to accompany the second of four clinical experiences in the athletic training curriculum to further develop and enhance the practical skills and knowledge necessary for clinical practice. Students will review and demonstrate upper extremity and postural evaluations, general medical assessments, and leadership skills.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Sci in Athletic Train.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(KINS 5244|Minimum Grade of B|May not be taken concurrently)
AND (KINS 5245|Minimum Grade of B|May not be taken concurrently)
AND (KINS 5246|Minimum Grade of B|May not be taken concurrently)
AND (KINS 5287|Minimum Grade of B|May not be taken concurrently)

KINS 5644. Applied Research in Athletic Training. 3 Credit Hours.
This three-credit course will introduce the fundamentals of research design and interpretation, including basic statistical analysis. Students will read, summarize, and interpret current literature related to athletic training and determine how it applies to clinical practice.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
KINS 5487|Minimum Grade of B|May not be taken concurrently.

KINS 5645. Board of Certification Examination Preparation. 2 Credit Hours.
This 2-credit course will focus on the directed study for the Board of Certification (BOC) examination. Through the use of self-assessments, students will identify areas of strengths and weaknesses, create tailored study plans, and complete practice examinations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(KINS 5487|Minimum Grade of B|May not be taken concurrently)
AND (KINS 5441|Minimum Grade of B|May not be taken concurrently)
AND (KINS 5442|Minimum Grade of B|May not be taken concurrently)

KINS 5687. Practicum in Athletic Training III. 3 Credit Hours.
This three-credit course is designed to accompany the third of four clinical experiences in the athletic training curriculum to further develop and enhance the practical skills and knowledge necessary for clinical practice. Students will review and demonstrate therapeutic exercise and modality applications.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(KINS 5487|Minimum Grade of B|May not be taken concurrently)
AND (KINS 5441|Minimum Grade of B|May not be taken concurrently)
AND (KINS 5442|Minimum Grade of B|May not be taken concurrently)

KINS 5808. Advanced Sport Concussion. 3 Credit Hours.
This online course is designed to provide students information about sport concussion. It is geared towards graduate students seeking to augment their concussion education. It is open to all students, but also serves to supplement specific student learning objectives for graduate Athletic Training Education students. This course will be cross-listed with an approved undergraduate course KINS 4808 Sport Concussion. Graduate students will receive targeted course lectures, readings, and online resources on topics such as concussion pathomechanics, pathophysiology, recognition, assessment, management, and return to play guidelines.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
KINS 5851. Current Trends in Athletic Training. 3 Credit Hours.
Through the use of current literature and content experts in the field, this three-credit course will provide advanced information regarding clinically relevant topics related to athletic training and sports medicine practice.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
KINS 5443|Minimum Grade of B|May not be taken concurrently.

KINS 5852. Transition to Athletic Training Clinical Practice. 3 Credit Hours.
This three-credit course will serve as the students' capstone experience and focus on preparing students to transition from the classroom to clinical practice. Students will submit a portfolio that includes completed competencies, resume, cover letter, and professional development units.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
KINS 5645|Minimum Grade of B|May not be taken concurrently.

KINS 5987. Practicum in Athletic Training IV. 3 Credit Hours.
This three-credit course is designed to accompany the final of four clinical experiences in the athletic training curriculum to further develop and enhance the practical skills and knowledge necessary for clinical practice. Students will review and demonstrate organization and administration principles and applied research skills.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(KINS 5443|Minimum Grade of B|May not be taken concurrently)
AND (KINS 5644|Minimum Grade of B|May not be taken concurrently)
AND (KINS 5687|Minimum Grade of B|May not be taken concurrently)

KINS 8101. Creative Approaches to Teaching Physical Education. 3 Credit Hours.
This course is for elementary and secondary physical education teachers. It focuses on fostering creative behavior in learners; developing an understanding of creativity and the creative person; and demonstrating the links between creative learner behavior and the teaching behavior with which it is associated. Participants practice and receive feedback about their teaching behavior.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

KINS 8300. Seminar in Athletic Training/Sport Medicine. 1 to 3 Credit Hour.
This course is designed to provide the student with analytical skills and practical experiences relative to research as it applies to sports-related injuries.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

KINS 8343. Orthopedics in Athletic Training/Sports Medicine. 3 Credit Hours.
This course deals with the theories and methods of orthopedic medicine as they are specifically applied to the understanding, evaluation, treatment, and rehabilitation of sports-related injuries. Course content includes general principles related to the evaluation of orthopedic and sports injury. Current theory and research related to the assessment of athletic injuries are presented.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
KINS 8344. Rehabilitation Methods and Techniques for Sports-Related Injuries. 3 Credit Hours.
This course is designed to provide the student with both the theoretical cases and some practical experience relative to rehabilitation therapy as it applies to sports-related injuries. Topics to be covered include manual muscle testing, goniometry, theories of pain and its management, and various therapeutic exercise modalities.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

KINS 8348. Lab Tech in Ath Train. 3 Credit Hours.
This is a 3-credit course specifically designed for students currently enrolled in the graduate Athletic Training program. This course will provide students with knowledge and application of selected laboratory instrumentation utilized in the athletic training division of the Biokinetics Research Laboratory. Topics include, but are not limited to, instrumentation used in testing of the following areas: pain threshold, strength, motion analysis, electromyography, postural control, and protein assays.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

KINS 8349. Cadaver Anatomy. 3 Credit Hours.
This course is designed for students currently enrolled in the graduate Athletic Training Education program. The course will provide students with knowledge and application of gross human anatomy, injury pathomechanics, and evaluation. Topics include, but are not limited to, laboratory experiences in the following areas: skeletal, muscular, nervous, cardiovascular, and respiratory systems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

KINS 8500. Symposium in Kinesiology. 3 Credit Hours.
This course provides an opportunity for an in-depth examination of a special topic of interest, generally in a smaller class setting.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

KINS 8601. Research Appraisal and Clinical Application. 3 Credit Hours.
This 3-credit hour online course will focus on critically reading current research related to the field of athletic training. Students will learn common research design and statistical methods, and be able to critically appraise current literature. Students will be able to identify and analyze trends in clinical practice with the goal of improving patient outcomes. This course will prepare students for their capstone experience.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Athletic Training.
Repeatability: This course may not be repeated for additional credits.

KINS 8602. Clinical Grand Rounds I: Lower Extremity. 3 Credit Hours.
This online course will consist of clinical cases from the students and guest lecturers in the medical field, including the current athletic training medical director. An evidence-based approach will be utilized to determine best practices and ways to improve patient outcomes for lower-extremity athletic injuries.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health.
Repeatability: This course may not be repeated for additional credits.

KINS 8603. Clinical Grand Rounds II: Upper Extremity. 3 Credit Hours.
This online course will consist of clinical cases from the students and guest lecturers in the medical field, including the current athletic training medical director. An evidence-based approach will be utilized to determine best practices and ways to improve patient outcomes for upper extremity athletic injuries.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
KINS 8602|Minimum Grade of B|May not be taken concurrently.
KINS 8604. Evidence Based Decision Making in Athletic Training. 3 Credit Hours.
This 3 credit hour online course will consist of defining evidence-based practice, including concepts of reliability, accuracy, predictive validity of clinical procedures, and outcome measures. Students will have the opportunity to apply evidence-based decisions to case-based scenarios, and critically evaluate decisions of peers. Students will be required to create an online clinical evidence-based continuing education course proposal according to the Board of Certification guidelines.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Athletic Training.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
KINS 8601|Minimum Grade of B|May not be taken concurrently.

KINS 8611. Leadership and Cultural Considerations in Athletic Training. 3 Credit Hours.
This 3 credit hour online course is an interdisciplinary course that utilizes case scenarios to discuss issues involving leadership, cultural competence, and ethical decision-making by health care team members.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

KINS 9102. Measurement and Evaluation in Physical Education. 3 Credit Hours.
This course investigates psychometrics as they apply to kinesiology. Assessment's role within education is explored, and technology's impact on measurement and evaluation is examined. Psychomotor, cognitive, and affective domains serve as the basis for constructing instruments and tests.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

KINS 9103. Analytic Study of Teaching. 3 Credit Hours.
This course offers systematic study of the teaching process and environments for learning in order to analyze students' own teacher behavior. Information from research on teaching in the psychomotor, cognitive, and affective domains is introduced to support these conceptual frameworks.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

KINS 9104. Curriculum in Physical Education. 3 Credit Hours.
This course examines the meaning and purpose of curriculum, its components and levels, and basic curriculum writing skills. Emphasis is placed on examining the scope and sequence of various organizing centers such as sport, fitness, movement, dance, aquatics, adventure, personal protection, and social skill.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

KINS 9201. Cardiovascular Exercise Physiology. 3 Credit Hours.
This is a comprehensive cardiovascular exercise physiology course that emphasizes the mechanisms of regulatory function of the cardiovascular system during acute physical activity and the mechanisms of the adaptive response to exercise training.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

KINS 9203. Appl Ex Physio-Neuromusc. 3 Credit Hours.
Principles of neurophysiological regulatory mechanisms of muscle contraction are the focus of this course. Skeletal muscle physiology, including muscle fiber types, neuromuscular junction, motor unit recruitment, and fatigue are discussed. Mechanisms of adaptation in skeletal muscles and the biomedical adaptations produced by increased and decreased use are also discussed, with emphasis on cell signaling and genomics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
KINS 5311|May not be taken concurrently.
KINS 9204. Cellular Adapt to Exer. 3 Credit Hours.
This course examines control and regulatory mechanisms at the tissue and cellular levels during exercise. Mechanisms of adaptation in cells and tissues and the biomedical adaptations produced by training are discussed, with emphasis on genomics and cell signaling.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(KINS 4311|May not be taken concurrently
OR KINS 5311|May not be taken concurrently)
AND (KINS 9203|May not be taken concurrently)

KINS 9205. Exercise Testing and Prescription. 3 Credit Hours.
This course enhances the knowledge and skills of persons interested in preventive and rehabilitative exercise programs. Exercise in the diagnosis, prevention, and rehabilitation of coronary heart disease, as well as the techniques of exercise stress testing are studied. Emphasis is placed on the development of exercise prescriptions from graded exercise test data.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

KINS 9206. Introduction to Environmental Physiology. 3 Credit Hours.
Mechanisms of physiological response of healthy person to desert, arctic, mountain, and undersea environments are explored, as are the effects of environmental stresses upon exercise performance. Principles of human thermoregulation are demonstrated in a laboratory setting.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

KINS 9287. Athletic Training/Sports Medicine Practicum I. 1 to 6 Credit Hour.
This is a practicum in which the student satisfies the 200-hour requirement by serving as an athletic trainer in a NATA-approved allied-health setting such as the Temple University Sports Medicine Clinics. Students perform athletic training duties under the supervision of certified athletic trainers and orthopedic surgeons.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

KINS 9288. Athletic Training/Sports Medicine Practicum II. 1 to 6 Credit Hour.
As a continuation of KINS 9287, in this practicum the student further satisfies the 200-hour requirement by serving as an athletic trainer in a NATA-approved allied health setting such as the Temple University Sports Medicine Clinics. Students perform athletic training duties under the supervision of certified athletic trainers and orthopedic surgeons.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

KINS 9301. Motor Development. 3 Credit Hours.
This course is designed to study human movement across the lifespan through the review and critique of major theoretical positions and the analysis of selected movement patterns.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

KINS 9302. Motor Learning. 3 Credit Hours.
This course is designed to study the acquisition and retention of motor skills as related to practice schedules, information processing, and motor control.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
KINS 9311. Biomechanics: Human Movement. 3 Credit Hours.
This course offers an assessment of research in the biomechanics of human motion, including electromyography, muscle modeling, link segment modeling and analysis, and energy and power analysis. The above concepts are utilized in the assessment of both normal and atypical populations in sport and rehabilitation contexts.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

KINS 9401. Psychological Bases of Motor Behavior. 3 Credit Hours.
This course focuses on the psychology of motor behavior, with particular emphasis on motor learning and motor development.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

KINS 9402. Psychology of Human Motivation and Development. 3 Credit Hours.
This course focuses on the basic psychological variables that influence, and are influenced by, human movement. A diverse set of topics within exercise and sport psychology is explored.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

KINS 9403. Sociology of Kinesiology. 3 Credit Hours.
This course focuses on the social structural/contextual variables that influence, and are influenced by, human movement. Among the variables examined are socioeconomic status, gender, race, ethnicity, sexual preference, dominant-subordinate perceptions, and value formation and conflict.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

KINS 9404. Exercise and Mental Health. 3 Credit Hours.
This course provides the student with a background in theory, research, and applied work in the relationship between exercise and mental health.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

KINS 9405. Psychosocial Interactions and Skilled Performance. 3 Credit Hours.
Research is reviewed and designed in this course, with a focus on the enhancement of performance in both competitive and expressive settings. Applied sports psychology consulting programs are reviewed and designed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

KINS 9406. Psychosocial Testing in Exercise and Sport Psychology. 3 Credit Hours.
This course provides the student with a background in test and measurement approaches within exercise and sport psychology, focusing on various measurement approaches/techniques as well as specific tests and measures.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

KINS 9407. Obesity and Eating Disorders. 3 Credit Hours.
This course aims to provide a comprehensive understanding of obesity and eating disorders. It focuses on kinesiology and its relation to the etiology of the disorder, its prevalence, classification, diagnosis, treatment and prevention. These issues are discussed in terms of their psychosocial, behavioral, and physiological aspects.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
KINS 9601. Capstone in Athletic Training. 6 Credit Hours.
The 6 credit hour capstone project is the culminating experience for the Doctor of Athletic Training program. It is completed under the mentorship of a research committee and integrates knowledge, skills, and abilities accrued throughout the program. The project will be founded in evidence-based practice and integrate current peer-reviewed research, patient population characteristics, and interdisciplinary provider expertise. The results of this project (e.g., literature review and critically appraised topics papers) will be submitted for presentation and/or publication.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
KINS 8343|Minimum Grade of B-|May not be taken concurrently.

KINS 9683. Mentored Research I. 3 Credit Hours.
This course exposes the Ph.D. student to the basic nature of behavioral and somatic science research. Learning experiences consist of journal article review, laboratory/field techniques, and subject or data collection exposure as directed by faculty mentors.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

KINS 9783. Mentored Research II. 3 Credit Hours.
This course provides the Ph.D. student with the opportunity to be involved in research, under the direction of the faculty mentor, as the assistant project director and as the project director for pilot studies. The student gains experience in these roles with close supervision by the faculty mentor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

Pre-requisites:
KINS 9683|Minimum Grade of B-|May not be taken concurrently.

KINS 9785. Internship in Kinesiology. 3 to 6 Credit Hours.
This course provides supervised field and/or clinical experiences in psychological aspects of sport/physical activity, and exercise science.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

KINS 9882. Independent Research. 1 to 12 Credit Hour.
This course allows students to engage in independent research. Students present a proposal to the instructor, who advises them on their project. Prior to registration, students obtain a letter of agreement from the department chair indicating the number of credits involved.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

KINS 9901. Research Methods in Kinesiology. 3 Credit Hours.
This course focuses on basic understanding of research methods and related techniques necessary to evaluate research literature in physical education and related fields. Attention is given to the selection of research problems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

KINS 9994. Preliminary Examination Preparation. 1 to 3 Credit Hour.
This course is for students who have completed all coursework and have not passed the preliminary examination.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.
KINS 9995. Master's Research in Kinesiology. 1 to 3 Credit Hour.
This course is open to Master of Science candidates doing either the project option or the first three credits of the thesis option.

Department Restrictions: Must be enrolled in one of the following Departments: CPH:Kinesiology.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

KINS 9996. Master's Thesis in Kinesiology. 3 Credit Hours.
This course is open only to Master of Science candidates completing the last three credits of the thesis option.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Education.

Repeatability: This course may be repeated for additional credit.

KINS 9998. Dissertation Proposal Research. 2 Credit Hours.
This course supports preparation of the dissertation proposal. The course is required for students who have passed the preliminary examinations for their PhD program and who have not yet defended the dissertation proposal.

Department Restrictions: Must be enrolled in one of the following Departments: CPH:Kinesiology.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Philosophy.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
KINS 9994|Minimum Grade of P|May not be taken concurrently.

KINS 9999. Doctoral Dissertation in Kinesiology. 1 to 9 Credit Hour.
This course is limited to candidates for the doctoral degree. This offers continuous registration during the fall and spring terms as required from after completion of the preliminary examination until the dissertation has been completed and accepted by the graduate faculty.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Philosophy.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.

Landscape Architecture (LARC)

Courses

LARC 5544. Landscape Architecture Computer Technology I. 3 Credit Hours.
An introduction to Computer Aided Drafting using AutoCAD. Focuses on learning the basic commands for drawing in two dimensions including: absolute and relative coordinates, working in layers, paper and model space, manipulation of text, and plotting.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

LARC 5551. Landscape Architecture Computer Technology II. 3 Credit Hours.
Builds upon computer knowledge introduced in Design Communications/Introductory Design Studio I or equivalent. Introduction to Geographic Information System (GIS), intermediate level computer-aided design (CAD), and Photoshop applications to aid in developing and presenting designs. How to select the most useful software for a particular design problem. Note: Prior to fall 2016, the course title was “Intermediate Computer Graphics.”

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
LARC 5564. Landscape Architecture Computer Technology III. 3 Credit Hours.
Addresses more advanced concepts in two-dimensional AutoCAD and introduces CAD applications as three-dimensional tools in the generation of perspective drawings. Includes plotting in color and integration with other graphic applications. NOTE: Prior to enrolling, students are expected to have introductory level skills in AutoCAD: basic commands for drawing in two dimensions including absolute and relative coordinates, working in layers, paper and model space, manipulation of text, and plotting. Prior to fall 2016, the course title was "Advanced CAD."

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
LARC 1544|Minimum Grade of D|May not be taken concurrently
OR LARC 5544|Minimum Grade of C-|May not be taken concurrently.

LARC 5665. Grant Writing. 3 Credit Hours.
Develop skills in researching grant funding possibilities, identifying and developing appropriate restoration projects with potential for grant funding, and writing grant proposals.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

LARC 8141. Design Communications/Introductory Design Studio I. 4 Credit Hours.
This studio course explores the development of graphic techniques and introduces students to the design process commonly used in landscape architecture and horticulture. Students develop a small-scale design project using a variety of graphic skills. Plans, sections, and elevations are drawn, and their functions are understood in design representation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

LARC 8144. Landscape Design Studio II. 4 Credit Hours.
This course focuses on the development of mixed use and sustainable communities within the natural, social, cultural, and economic context of development or redevelopment. Large-scale land-use and community planning projects in the urban or rural context are investigated. Real world projects range from preparing community-based revitalization plans and designs for inner-city neighborhoods, to the creation of a new town development set in a bucolic landscape. Students learn to develop creative ideas through illustrative techniques. They engage in a complete design process, including analysis, conceptual, and finished design of an outdoor space.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
LARC 8141|Minimum Grade of C-|May not be taken concurrently.

LARC 8151. Woodland Design Studio. 4 Credit Hours.
Students apply the knowledge and methodologies presented in LARC 8751: Northeastern Woodland Ecosystems. Projects, varying in size and location, allow students to synthesize and advance their understanding of the ecosystem. Finished design projects are presented in graphic, written, and verbal forms and may be implemented in the field. Students develop the analytical and technical skills necessary for the inventory, analysis, programming, and design of a woodland landscape. Fieldwork, site inventory and analysis, identification of opportunities and constraints, and program development, as well as hand and computer drawing, are included.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Co-requisites: LARC 8351, LARC 8751.

Repeatability: This course may not be repeated for additional credits.
LARC 8152. Wetland/Riparian Design Studio. 4 Credit Hours.
This studio course complements material introduced in LARC 8752: Wetland Ecology. Students are required to draw on and implement knowledge about wetland ecosystems to develop a site design. Field visits, inventory, analysis, and monitoring are used to gain a thorough knowledge of the site for use as the basis for a design. Identification of opportunities and constraints, program development, and hand and computer drawing are extensively used. Students learn the critical thinking and artistic judgment necessary for developing a design for wetland habitat restoration.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Co-requisites: LARC 8752.
Repeatability: This course may not be repeated for additional credits.

LARC 8153. Public Lands Design Studio. 4 Credit Hours.
Material presented in LARC 8352: Policies of Public Design Seminar is addressed in this design studio, which focuses on a public project, such as a metropolitan park or regional or state conservation area. Students are required to understand and integrate the diverse values and views held by various stakeholders. In addition to typical design studio components such as site inventory and analysis, projects may require students to interview, confer, and present to public audiences to seek feedback and approval of designs. By the end of the course, students have attended and/or presented at public meetings and have developed a design for the public realm.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

LARC 8241. Landscape Engineering I. 3 Credit Hours.
The course emphasis is on the basic concepts, ideas, and techniques that deal with the visual, functional, and ecological aspects of grading and landform manipulation. Students learn the technical skills necessary for grading a landscape to ensure proper drainage.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

LARC 8242. Landscape Engineering II. 3 Credit Hours.
This course is an introduction to the principles, processes, and techniques of site engineering for the land forms of landscape architecture. Based on the understanding and appreciation of ecological principles, functional requirements, and aesthetic considerations, students learn elements of design/engineering such as advanced grading, storm water management, and road alignment. Different approaches to grading and water management are studied, and a set of grading plans is developed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
LARC 8241|Minimum Grade of C-|May not be taken concurrently.

LARC 8351. Aesthetics of Ecological Design Seminar. 1 Credit Hour.
Students learn about the emerging aesthetic associated with ecological design. Form and psychological experience of design are presented through readings and discussion. Students understand the importance of peer-reviewed research as it relates to design and aesthetics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Co-requisites: LARC 8151, LARC 8751.
Repeatability: This course may not be repeated for additional credits.
LARC 8355. Capstone Seminar. 1 Credit Hour.
The LARC 8355 Capstone Seminar is an introduction to, and preparation for LARC 9995, Capstone Restoration Design Project. The Capstone Seminar objectives include defining the research topic and specific project site, in addition to establishing the scope and goals of the proposed project. Students conduct a thorough site inventory and analysis, identify research resources and precedents, contact site stakeholders and formulate a design program. All these components are further developed in LARC 9995 in the following spring semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Landscape Arch.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(LARC 5551|Minimum Grade of C-|May not be taken concurrently
AND LARC 8151|Minimum Grade of C-|May not be taken concurrently
AND LARC 8152|Minimum Grade of C-|May not be taken concurrently
AND LARC 8153|Minimum Grade of C-|May not be taken concurrently
AND LARC 8241|Minimum Grade of C-|May not be taken concurrently
AND LARC 8242|Minimum Grade of C-|May not be taken concurrently
AND LARC 8351|Minimum Grade of C-|May not be taken concurrently
AND LARC 8552|Minimum Grade of C-|May not be taken concurrently
AND LARC 8751|Minimum Grade of C-|May not be taken concurrently
AND LARC 8752|Minimum Grade of C-|May not be taken concurrently
AND LARC 8789|Minimum Grade of C-|May not be taken concurrently
AND LARC 8791|Minimum Grade of C-|May not be taken concurrently)

LARC 8496. Landscape Traditions. 3 Credit Hours.
A comprehensive overview of Western civilization's efforts to create useful, beautiful, and symbolic spaces from ancient times until the modern day is presented. Students learn to critically assess landscapes through written research papers and oral presentations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

LARC 8552. Research Design Methods. 3 Credit Hours.
Master of Landscape Architecture students gain an understanding of research design methods. Students conduct a research project and write a paper that summarizes their research study and findings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

LARC 8644. Professional Practice. 3 Credit Hours.
This course focuses on the study of ethics, current business practices, contract documentation, bids, cost estimates, specifications, and interdisciplinary relationships. It seeks to teach the student how to set priorities, manage people, and execute landscape projects. Students gain an understanding of different professional avenues and opportunities and develop a case study/interview of a firm or public agency.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(LARC 8141|Minimum Grade of C-|May not be taken concurrently
AND LARC 8241|Minimum Grade of C-|May not be taken concurrently)

LARC 8751. Northeastern Woodland Ecosystems. 3 Credit Hours.
The course presents terrestrial forest ecosystems and the biotic and abiotic factors that affect them. Students learn the components of forest ecosystems, including degradation factors and restoration concepts. Field trips allow students to observe and document a local forest ecosystem.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Co-requisites: LARC 8151, LARC 8351.

Repeatability: This course may not be repeated for additional credits.
LARC 8752. Wetland Ecology. 3 Credit Hours.
The course introduces the ecology of traditional wetlands, such as salt marshes and bogs. Students gain an understanding of riparian edges and shorelines and the measures necessary for protecting and/or restoring them. Site visits are required.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Landscape Architecture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Co-requisites: LARC 8152.

Repeatability: This course may not be repeated for additional credits.

LARC 8755. Native Plant Communities. 3 Credit Hours.
The course examines native and naturalized tree, shrub, and/or herbaceous plant community structure. Restoration processes are explored relevant to maintaining healthy plant communities. Discussion centers around growth, habit, and on-site propagation during restoration. Students learn to distinguish between native and non-native plant communities and vital characteristics associated with plant community health.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

LARC 8789. Landscape Restoration Workshop. 3 Credit Hours.
Students learn principles and practices of ecological restoration through hands-on experience. They visit restored landscapes, conduct field measurements in an old growth forest, and contribute to a restoration project on the Ambler Campus. An overnight camping trip is required. By the end of the course, students understand various technical strategies involved in restoration through drawing and writing their field observations, assessing proper techniques for restoration, and then implementing those techniques on a real site.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

LARC 8860. Topics in Landscape Architecture. 3 Credit Hours.
Variable offerings from semester to semester of selected topics not part of the regular listing of courses. The topic can be in an area of specialization of a faculty member or an examination of a current development in the field. NOTE: Students may obtain a description of the current version at the department office and in the schedule of classes. This course may be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

LARC 8870. Topics in Landscape Architecture. 1 to 3 Credit Hour.
Variable offerings from semester to semester of selected topics not part of the regular listing of courses. The topic can be in an area of specialization of a faculty member or an examination of a current development in the field. NOTE: Students may obtain a description of the current version at the department office and in the schedule of classes. This course may be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

LARC 8889. Restoration Monitoring Workshop. 3 Credit Hours.
This field course introduces methods for monitoring the process of a restoration project and the corrective actions needed to ensure a positive restoration. It includes strategies for pre- and post-installation monitoring. By the end of the semester, students understand issues associated with monitoring and maintaining the health of a restored ecosystem.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Landscape Architecture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Landscape Arch.

Repeatability: This course may not be repeated for additional credits.

LARC 9883. Directed Reading/Study. 1 to 3 Credit Hour.
Advanced reading/study tutorial is arranged between the student and a faculty member. NOTE: A written contract with the faculty member and approval from the Chair of the Department are required.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
LARC 9995. Capstone Restoration Design Project. 3 Credit Hours.
Students develop an independent restoration design project requiring synthesis of all previous coursework, including methodologies, seminars, ecological knowledge, and design projects. Every project must incorporate research in three ways: (1) accomplishing a literature review; (2) selecting and applying a methodology; and (3) advancing the knowledge base in ecological restoration. Research is used to both guide and test the design project. Students develop a comprehensive report. The capstone project concludes with a verbal and graphic presentation as well as a report summarizing the implications of the design, including strategies for monitoring and adjusting the restoration over time. Note: Students must obtain the instructor's approval of a project site and type no later than the first week of the semester, and must select a capstone committee comprised of three full-time instructors, one of which must be a member of the Department of Landscape Architecture and Horticulture.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Landscape Architecture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Landscape Arch.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
(LARC 5551|Minimum Grade of C-|May not be taken concurrently)
AND (LARC 8151|Minimum Grade of C-|May not be taken concurrently)
AND (LARC 8152|Minimum Grade of C-|May not be taken concurrently)
AND (LARC 8153|Minimum Grade of C-|May not be taken concurrently)
AND (LARC 8242|Minimum Grade of C-|May not be taken concurrently)
AND (LARC 8351|Minimum Grade of C-|May not be taken concurrently)
AND (LARC 8355|Minimum Grade of C-|May not be taken concurrently)
AND (LARC 8552|Minimum Grade of C-|May not be taken concurrently)
AND (LARC 8751|Minimum Grade of C-|May not be taken concurrently)
AND (LARC 8752|Minimum Grade of C-|May not be taken concurrently)
AND (LARC 8755|Minimum Grade of C-|May not be taken concurrently)
AND (LARC 8789|Minimum Grade of C-|May not be taken concurrently)
AND (LARC 8889|Minimum Grade of C-|May not be taken concurrently)

Latin (LAT)

Courses
LAT 8001. Graduate Readings: Classical. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

Latin American Studies (LAS)

Courses
LAS 5001. Process and Change in Latin America. 1 to 9 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Legal Studies (LGLS)

Courses
LGLS 5051. Business Law. 1.5 Credit Hour.
This course provides an overview of contract law, the foundation of all business law, with special attention given to issues often encountered by business executives. In addition, a broad range of ethical workplace dilemmas will be covered. Topics include sources of law, the organization of the United States legal system, selected issues in domestic and international contracts, diversity in the workplace, privacy and technology, and whistle-blowing.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
LGLS 5131. Environ Law & Corp Resp. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

LGLS 5155. E-Commerce Law & Regulation. 1.5 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

LGLS 5170. Special Topics. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

LGLS 5180. Special Topics. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

LGLS 5182. Independent Study. 1 to 3 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

LGLS 5190. Special Topics - Law. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

LGLS 5282. Independent Study. 1 to 3 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

LGLS 5301. Business Law. 1.5 Credit Hour.
The legal system affects each of us on a daily basis in both our personal and professional lives. Business owners and managers, no matter what specific profession they may choose, must learn certain core legal concepts that can help guide decision making. This course will examine the structure of the United States and international legal systems, essentials of tort and contract law with an emphasis on issues relating to sales, services and employment. We will also cover the interplay between fiduciary duties, corporate governance and whistle-blowing.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may not be repeated for additional credits.

LGLS 5401. Business Law. 1.5 Credit Hour.
The legal system affects each of us on a daily basis in both our personal and professional lives. Business owners and managers, no matter what specific profession they may choose, must learn certain core legal concepts that can help guide decision making. This course will examine the structure of the United States and international legal systems, essentials of tort and contract law with an emphasis on issues relating to sales, services and employment. We will also cover the interplay between fiduciary duties, corporate governance and whistle-blowing.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may not be repeated for additional credits.

LGLS 5602. Ethics in the Public and Commercial Sectors. 3 Credit Hours.
This course will provide an overview of the study of ethics and its operations in the public and commercial sectors. It will emphasize the identification and analysis of ethical issues in the regulatory and corporate contexts and examine the roles of government and business in society, focusing upon its various stakeholders, including government regulators, consumers, corporate actors, employees, and local/national/global communities. It will also dissect the ethical dimensions of ordinary regulatory and corporate decision-making.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
LGLS 5603. Public Policy and Regulatory Process. 3 Credit Hours.
The course will introduce students to the study of public policy - that which addresses the interests of the public and fuels the creation of national, state and local laws, as well as internal codes of corporate conduct. The course will assist students in comprehending how public officials make decisions that positively and negatively affect people’s lives in the public and private sectors. The course will examine how problems reach the government’s agenda, why some solutions are embraced and others rejected, and why some policies seem to flourish while others flop. Students will be encouraged to intelligently analyze policies, find their strengths and weaknesses, and apply knowledge of the policy process to any issue confronted in daily life. Students will also understand how legislation is proposed and passed, how legislation is enforced, and how stakeholders can affect the ultimate acceptance or rejection of a proposed policy or regulation. Additionally, students will understand the dynamic nature of public policy by comparing prior policy, legislation, and public attitude with that of the modern world.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

LGLS 5604. Corporate Compliance. 3 Credit Hours.
This course provides an overview of the world of corporate compliance. The Compliance Officer’s ability to investigate wrongdoing at the workplace, through internal investigations and audits, will be explored, along with case study exercises that involve the interaction between corporate entities and federal and state agencies. Students will analyze the interrelationships between the public and private sectors and the nature of legal liability for business entities and their employees. The course will also emphasize the creation and maintenance of corporate compliance programs, codes of conduct and policies, with drafting and critiquing exercises. Substantive course topics include: corruption, workplace discrimination, data privacy, trade control, and environmental risk.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

LGLS 5605. Corporate Governance and Responsibility. 3 Credit Hours.
This course will provide an overview of corporate governance, the systems, principles and processes by which corporations are directed and controlled. It will explore inter-related governance structures (e.g., the relationships between and among boards of directors, management, shareholders in contemporary business organizations) and analyze how companies can be directed such that they satisfy their objectives in a way that builds value and benefits stakeholders. It will analyze the intersection of responsible management and good public policy. Students will consider how a business organization can build and sustain a culture that is supportive of ethical decision-making, both internally and in relation to the political process. Students will look at the kinds of ethical dilemmas that confront managers, at the pressures that can cloud good judgment, and at mechanisms for communicating best ethical practices across an organization. As they analyze a series of business ethics case studies, students will weigh possible action choices in light of both relevant law and market imperatives.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

LGLS 5606. Forensic Accounting. 3 Credit Hours.
This course explores the growing field of forensic and investigative accounting. Students will be introduced to the basic concepts of auditing, internal control, valuation, fraud examination, and litigation support. The objectives of this course include understanding the principles and practices that guide accountants, financial professionals, and Certified Fraud Examiners.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

LGLS 5607. Global Public Policy and Business. 3 Credit Hours.
Public policy refers to the relationship between the government and the governed. This relationship includes the complex array of statutes, regulations, and often judicial decisions that affect the actions of ordinary citizens by guiding their behavior and providing ramifications for acting outside of socially accepted norms. Policies reflect the values and beliefs of a specific community, whether local, regional, national or international. Businesses are also affected by these policies. The behavior of firms, of their employees, and of their governing institutions, are driven by policies developed by government actors. Policies for businesses are most often reflected in the form of regulations, which guide firm behavior with respect to financing, labor standards, transparency, interaction with the environment, and so forth. Debates rage about whether a strong regulatory environment facilitates effective economic development with a consumer focus or whether it restricts economic growth potential. In this course, we will examine business-relevant issues within the global public policy environment. We will compare and contrast the regulatory environments of distinct countries to that of the United States in order to judge effectiveness, viability, and the relationship between that environment and business growth. This class will be case study intensive and will require students to apply deep critical analysis skills as they read course materials and complete assignments.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
LGLS 5611. Compliance in the Financial Services Industry. 3 Credit Hours.
This course focuses on the regulatory landscape concerning the financial services industry. Students will learn about the basic regulatory principles guiding financial institutions, as well as modern changes to be implemented as a result of the recent financial crisis. Additionally, students will learn about the intersection between the different regulatory bodies that oversee both public and private financial institutions. Specific topics to be discussed include: the Dodd-Frank Act, the Glass-Steagall Act, the Gramm-Leach-Bliley Act, and the Right to Financial Privacy Act.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

LGLS 5612. Ethics in the Financial Services Industry. 3 Credit Hours.
This course explores ethical issues in the financial services industry. The need for ethical practices in the financial services industry has been repeatedly discussed following the recent financial crisis. Students will discuss the often-unclear boundaries between ethical and legal practices. Students will also explore the relationship between different financial services organizations, shareholders, regulators, and customers. The objective of this course is to prepare students to make ethical decisions that positively affect both their organization and outside stakeholders.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

LGLS 5613. Compliance in Healthcare. 3 Credit Hours.
This course focuses on the regulatory landscape concerning the healthcare industry. Innovations in technology, an aging population, and the passing of the Patient Protection Affordable Care Act are poised to greatly change the American healthcare industry. Students will learn how these changes will affect their respective organizations. Upon completion of this course, students will be better equipped to serve as effective compliance leaders.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

LGLS 5614. Ethics in Healthcare. 3 Credit Hours.
This course explores the ethical issues in the healthcare industry. The nature of the doctor-patient relationship in healthcare creates unique ethical issues. Students will learn how to recognize and confront these ethical issues. Through an open discussion and analysis of current events, students will explore the delicate balance between the patient’s interests and the business decisions facing modern healthcare providers.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

LGLS 5615. Risk Management and Compliance. 3 Credit Hours.
Risk is a future phenomenon. As part of our eternal quest to control some small component of our future, it is the focus of many business discussions, thus making it an essential part of decision making. The challenge and the focus of the course is on creating a degree of consistency in managing risk and the risk process. The course uses a holistic approach, examining risk as a blend of environmental, programmatic, and situational concerns, covering the latest perspectives, focusing on a systematic approach to risk management. We also focus on specific techniques to enhance organizational risk identification, assessment, and management, all within the project and program environments.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

LGLS 5616. Anti-Money Laundering. 1.5 Credit Hour.
Money laundering generally refers to financial transactions in which criminals, including terrorist organizations, attempt to disguise the proceeds, sources or nature of their illicit activities. Money laundering facilitates a broad range of serious underlying criminal offenses and ultimately threatens the integrity of the financial system. The course reviews the various forms of money laundering and how it may be combated.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
LGLS 5617. Sustainability in Business. 3 Credit Hours.
A sustainable approach to business requires business leaders to transform the traditional linear business production cycles that exploit the environment and produce wastes into a more circular one in which all waste products are used in the production cycle, in an industrial cluster, or returned harmlessly to the earth. Waste reflects inefficiency, pollution risks, and seeking its elimination leads to innovation. The change of perspective is especially necessary today. In the first industrial revolution, humans had abundant resources and limited labor. Now the resources available to businesses are limited and labor (whether human or automated) is abundant. So, business leaders need to learn how to do more with what they have. In the course, we study industrial ecology as means to develop new business models and processes that generate better products, reduce costs, protect the environment, and make money for the firm. In doing so, we study cases and provide students the opportunities to reconsider their own industries and develop entrepreneurial ideas.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

LGLS 5618. Compliance in the Government Services Industry. 1.5 Credit Hour.
The work of corporate governance is divided into two main parts: compliance and ethics. This course focuses on compliance in the government services industry, which includes the rules and regulations that companies have to follow when doing work for the government. That is to operate in the area of corporate governance, one needs to know and put safeguards in place to make sure the company is following applicable rules, including, but not limited to rules against conflicts of interest, drafting codes of conduct, handling employee violations of the code of conduct, and monitoring vendors.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

LGLS 5619. Ethics in Government Services Industry. 1.5 Credit Hour.
This course focuses on ethics in the government services industry, which includes helping students identify and incorporate certain ethical frameworks that they can apply to moral conflicts in business with the government. That is to say, it is not enough to know the rules, one must know how to apply them, why you are applying them and, at times, when to disregard them. The course focuses on ethical issues that specifically arise in the government services industry.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

LGLS 5622. Law and Policy of the Workplace. 3 Credit Hours.
Social media and privacy rights. Sexual harassment. Trade secrets and Non-Compete Agreements. Conscious and Unconscious Bias. This course will explore the rights and responsibilities of workers and managers alike by examining the laws, regulations, court cases and policies that govern the employer-employee relationship. It aims to provide you with a basic understanding of workplace law and policy while challenging you to question existing approaches to the employment relationship. The course will use cases and questions currently in the news and in the courts to examine the U.S. approach to the workplace: Should employers control employees’ access to birth control or other medical care? Can a company perform criminal background or credit checks on applicants without violating race discrimination prohibitions? How would a mandate of paid time off to care for a new child or ill family member impact a business’s bottom line? What role should the government play in setting a minimum wage and how does it affect workers and their employers? This course will ask questions like these to help you understand the way in which compliance with workplace laws impacts numerous aspects of a business and to help you articulate your own view of the employer-employee relationship.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

LGLS 5623. Cyber-Security and Privacy. 3 Credit Hours.
This course introduces students to the interdisciplinary study of cybersecurity and privacy rights. It examines the development of cybersecurity (how we can protect against the criminal or unauthorized use of electronic data) and how this topic relates to the government and business sectors and interfaces with individual privacy rights (i.e., the right of a person to be free from intrusion into matters of a personal nature). Students will investigate national and global legal and policy considerations related to cybersecurity and privacy, including cybercrime, homeland security and cyberwarfare, and how law and policy is created in this arena. In addition, students will study the existing legal frameworks that protect consumer privacy and the security protections for private sector businesses, with strong focus on regulatory and compliance matters.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
LGLS 5701. Law and Ethical Foundations. 1 to 3 Credit Hour.
You will develop greater confidence in identifying and managing situations where legal and ethical questions are prominent and where the right decision may not be the easy one to make. As you learn to master the basics of business law, you'll discuss actual dilemmas that you've faced at work. As issues involving contracts, torts, bankruptcy, technology, employment, and international law surface in discussions, you'll gain insight into ways of resolving these complex business problems in both classical and digital enterprises. Moreover, you will learn about the relationship among business and its many internal and external stakeholders, with an exploration of the question “Does business have a social responsibility?”.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may not be repeated for additional credits.

LGLS 5801. Business Ethics. 2 or 3 Credit Hours.
You will develop greater confidence in managing situations where legal and ethical questions are prominent and where the right decision may not be the easy one to make. As you learn to master online legal research and the basics of business law, you’ll discuss actual dilemmas that you’ve faced at work. As issues involving diversity, surveillance technology, environmental protection, workplace safety, whistle blowing and sexual harassment surface in discussion, you’ll gain insight into ways of resolving these complex business problems in both classical and digital enterprises. Note: Enrollment limited to students in the EMBA program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

LGLS 5882. Independent Study. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

LGLS 5890. Special Topics. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

Management Information Systems (MIS)

Courses

MIS 5001. Information Technology Management. 1 to 3 Credit Hour.
Organizations that strategically select, manage, and deploy digital business models prosper in the global economy. Students will use systems and business process thinking to create and analyze strategies for technology-enabled organizational and industry transformation. They will propose innovative solutions for new and existing business initiatives to leverage enterprise, consumer, and social technologies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may not be repeated for additional credits.

MIS 5101. Business Intelligence. 3 Credit Hours.
Data is a core building block of modern organizations; transforming data into information and knowledge enables firms to compete effectively. In this course, students learn best practices for acquiring, assessing, and analyzing data to solve business problems. Students also learn the technologies that comprise an organization’s information infrastructure. Students gain hands-on experience with these concepts through case studies and exercises.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may not be repeated for additional credits.
MIS 5102. Process Improvement and Innovation. 3 Credit Hours.
An information system is only valuable to an organization when it enables and supports a useful business process. Students learn to assess, design, and analyze processes that foster innovation. Core concepts include designing effective solutions, identifying metrics for assessment, and communicating plans to management. Students apply these skills through analysis of business problems for actual firms.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MIS 5001|Minimum Grade of B-|May not be taken concurrently
OR MIS 5302|Minimum Grade of B-|May not be taken concurrently
OR MIS 5402|Minimum Grade of B-|May not be taken concurrently.

MIS 5103. Network Architectures for Business. 3 Credit Hours.
This course covers the information architecture of the internet-enabled organization, including the use and development of client server and distributed systems. It provides detailed analysis of networking and telecommunications, including data, voice, image, video, network hardware, and topology. Concepts, models, architectures, and standards for the design, implementation, integration, security, and management of distributed internet- and intranet-enabled systems and networks are discussed. The course provides an understanding of the role of the information architecture and distributed systems on organizational design and management strategy.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MIS 5001|Minimum Grade of B-|May not be taken concurrently
OR MIS 5302|Minimum Grade of B-|May not be taken concurrently
OR MIS 5402|Minimum Grade of B-|May not be taken concurrently.

MIS 5104. Network Centric Applica. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

MIS 5105. Emerging Technologies. 3 Credit Hours.
This seminar reviews emerging technologies that will prepare students to effectively leverage new technologies to create business opportunities through innovation. The specific topic of this course varies by semester to accommodate new trends and technologies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

MIS 5106. Objct Oriented Computing. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

MIS 5107. Knowledge Mgmt/Bus Intel. 3 Credit Hours.
This course reviews knowledge management principles and technologies focusing on business applications.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
MIS 5108. Digital Business Strategy. 3 Credit Hours.
Information Technology leadership is a critical function in organizations. This course teaches the skills of effective technology strategists. Students develop the business case for new technology initiatives, evaluate the success of existing initiatives and develop plans for technology-enabled organizational change. Through a series of case study analyses, students develop technological and organizational skills required of IT leaders.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MIS 5001|Minimum Grade of B-|May not be taken concurrently
OR MIS 5302|Minimum Grade of B-|May not be taken concurrently
OR MIS 5402|Minimum Grade of B-|May not be taken concurrently.

MIS 5109. User Interface Design. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MIS 5112. Business Design and Innovation. 3 Credit Hours.
Digital business opportunities are no longer limited to the technology itself; they also include the experiences and ecosystems around them. To succeed in this new economy, today’s leaders require a broad set of skills that incorporate creative thinking and innovation. Students will learn the tools and methods of Business Design to address real-world business problems. They will apply design inquiry techniques to craft original solutions to a series of practical scenarios.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

MIS 5121. Enterprise Resource Planning Systems. 3 Credit Hours.
This course introduces students to the essential concepts of an ERP. The course looks at how a business’ key transactions are executed and accounted for in an ERP. IS and accounting controls to assure confidentiality, integrity and authenticity are examined. Finally, the course looks at how transaction processing data is transformed into data for management analysis and legal entity reporting.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MIS 5122. Enterprise Architecture for IT Auditors. 3 Credit Hours.
This course surveys the technology concepts and components that are critical for the IT auditor to understand. It uses an enterprise architecture framework to explore issues of business process, business data, applications and the infrastructure that are necessary to run those applications.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MIS 5123. Business Essentials for IT Audits. 1 to 3 Credit Hour.
This course gives incoming students from technical disciplines the basic business background that they will need throughout the ITACS curriculum. Students will learn how to read basic financial statements, the components that make up a business model, how applications support both revenue generation and operations, and the role of a control environment. Topics include the income statement, balance sheet, cash flow statement, business model, value proposition, market segmentation, the sales process, business processes and controls.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MIS 5161. Inf Sys Applications-Org. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MIS 5162. Database Mgt Sys & Model. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
MIS 5163. Sys Anal/Rapid App Dev. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

MIS 5164. Inf Tech Prin-Network-BS. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

MIS 5170. Special Topics. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

MIS 5178. Inf Architect & Network. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

MIS 5179. Inf Systems Mgt & Proces. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

MIS 5182. Independent Study. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

MIS 5190. Special Topics in MIS. 1 to 6 Credit Hour.
Special topics in current developments in the field of information systems are covered.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

MIS 5201. IT Audit Process. 3 Credit Hours.
This course introduces students to the essential concepts of IT auditing. Students will learn standards and guidelines for performing an IT audit. Topics will include concepts of internal controls. Students will learn to plan and manage an audit as well has how to report on evidence collected during the audit.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may not be repeated for additional credits.

MIS 5202. IT Governance. 3 Credit Hours.
Understanding how IT organizations are structured and managed is essential to effective IT auditing. In this course students will learn how IT organizations are managed and the issues which make IT management so challenging. Students will learn how strategic planning is performed within IT organizations. A number of tools, techniques, and frameworks such as COBIT will be discussed which will help make the auditor effective in this environment.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may not be repeated for additional credits.

MIS 5203. Systems and Infrastructure Lifecycle Management 1. 3 Credit Hours.
Examines how an organization builds an enterprise architecture within an environment of internal control. Topics cover include information system planning, management and usage, the development, acquisition and maintenance of these technologies and their impact on the organization's business processes.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may not be repeated for additional credits.
MIS 5204. Systems and Infrastructure Lifecycle Management 2. 3 Credit Hours.
A closer examination of the controls needed during software development and the external acquisition of systems as well as the concept of application controls and how they are used.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MIS 5203|Minimum Grade of B-|May not be taken concurrently.

MIS 5205. IT Service Delivery and Support. 3 Credit Hours.
Learn how the operational aspects of an IT organization deliver on the value proposition of the organization. Learn about the technical infrastructure and how this infrastructure provides a reliable and secure platform for applications. Learn about service center management and how these teams are utilized to deliver value to the organization.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

MIS 5206. Protection of Information Assets. 3 Credit Hours.
Information is an organization's most precious asset. Inadvertent disclosure of sensitive information can have significant operational and financial impact on the organization. Loss of information or access to it can also have serious adverse impacts on the organization. In this course students learn the importance of managing the information assets of the organization including logical IT security, physical, and environmental security. Disaster recovery and mitigating risk through insurance are also discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

MIS 5208. Data Analytics for IT Auditors. 3 Credit Hours.
MIS 5208 examines the emerging approach of continuous-audit. This approach relies heavily on data analytics to examine datasets produced by audit and security controls (for instance, network log files). Basic data analysis concepts are presented and then applied to security or audit problems. Audit specific tools like ACL will be used in addition to general tools like Excel.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MIS 5209. Securing Digital Infrastructure. 3 Credit Hours.
This course examines issues related to securing the components of a company's infrastructure. It reviews network, firewall, and basic operating system security issues. It presents the material theoretically and practically through many in class and homework exercises.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MIS 5211. Ethical Hacking. 3 Credit Hours.
This course introduces students to the hacking strategies and tactics used by ethical or "White Hat" hackers. Methods of vulnerability exploitation to be used primarily in the process of Security Penetration will be explored in theory and in hands on exercises. The course will require simple programming using Open Source scripting languages and hacking tool kits. For that reason some knowledge of and experience with computer programming is required.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.
MIS 5212. Penetration Testing. 3 Credit Hours.
This course introduces students to Penetration Testing. Methods of vulnerability assessment and exploitation are examined as a means of identifying areas requiring improved security and recommended changes. The ethical, business governance and legal implications of penetration testing are examined. Specific techniques are examined in detail with the intent of giving the students a practical understanding of how Penetration Tests are conducted and laboratory-based experience in their actual conduct.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

MIS 5213. Intrusion Detection & Response. 3 Credit Hours.
While all businesses work to be as secure as possible, it is agreed that no organization can be completely secure. Preventing attacks, quickly identifying successful attacks, detecting advanced persistent threats and monitoring systems activity in order to deter intrusions can result in significant business benefit. This course examines the variety of tools and techniques used to do this work.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

MIS 5214. Security Architecture. 3 Credit Hours.
Examines the methodology by which an organization aligns its business strategy with its security operations. Both the current and desired future states of the business’ security efforts are described so that resources can be directed to the security efforts most needed to support the business.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

MIS 5215. Operation System Security. 3 Credit Hours.
This course introduces students to operating system security and tools to secure and audit an organization's computer operating systems. Methods of securing operating systems will be explored in theory and through hands on exercises. The course will teach students programming techniques and how to use specific operating system and Open Source scripting languages. Knowledge of and experience with introductory computer programming is required, as is demonstrated ability to use operating systems and navigate file systems in Microsoft Windows and/or Linux is required. In this course, we will focus on securing operating systems. The first part of the course will focus on processes used to secure the MS Windows operating system. The second part of the course will apply those same techniques to the Linux operating system. The course will discuss techniques and tools used to help reduce weaknesses in default installations/configurations of different operating systems.

Department Restrictions: Must be enrolled in one of the following Departments: Business:Management Inform Sys.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MIS 5216. Organizational Forensics. 3 Credit Hours.
The focus of the course is on helping students gain a broad understanding of the field of study and how technology and law interact to form forensic science. Students will learn how computer forensics techniques are used to investigate digital data to gather evidence relating to criminal or other legal incidents and events. This course helps students understand how to find vulnerabilities, discover intrusions and respond to computer incidents. Students will learn how attackers undermine and exploit systems so they can help prepare an organization to detect and respond to them. Legal issues involved in responding to computer attack are explored, including employee monitoring, working with law enforcement and handling evidence. Students will learn how to prepare to handle incidents, and participate in the process of incident identification, containment, eradication, recovery and lessons learned.

Department Restrictions: Must be enrolled in one of the following Departments: Business:Management Inform Sys.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MIS 5282. Independent Study. 1 to 3 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
MIS 5001|Minimum Grade of B-|May not be taken concurrently.
MIS 5287. Business Skills for ITACS Professionals. 3 Credit Hours.
In this course students practice a variety of business skills that are necessary to be effective as an IT auditor. These skills include managerial communications and public speaking skills, interviewing skills, negotiation and personal selling skills, business writing, industrial psychology/behavioral science skills, project/time management and team building skills. The course is delivered through a series of workshops and simulations and include observations of business practices at host IT companies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

MIS 5301. Data Analytics for Management. 1.5 Credit Hour.
Organizations rely on data to make effective decisions, and managers must create a data-driven mindset that uses analytics to drive strategy. In this course, students learn how data is used to support organizational decision-making and solve business problems. Students learn the tools and techniques organizations use to assess, prepare, and analyze data. Students gain hands-on experience through case studies and exercises that require the use of a wide range of data and analytic skills, including statistics. The course includes a data analytics contest involving the analysis, interpretation and reasoning from data provided by corporate and nonprofit partners.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: STAT 5301 Minimum Grade of B- May be taken concurrently.

MIS 5302. Managing Technology & Systems. 1.5 Credit Hour.
Organizations that strategically select, manage, and deploy digital business models prosper in the global economy. Students will use systems and business process thinking to create and analyze strategies for technology-enabled organizational and industry transformation. They will map systems and processes and propose innovative solutions for new and existing business initiatives to leverage enterprise, consumer, and social technologies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

MIS 5303. Design Inquiry and Research. .5 to 1.5 Credit Hours.
This course forms a foundation of approaches, skills and working methods to be applied throughout the MBA experience. This material is less about a distinct subject and more about a new perspective to effectively meet the business challenges of a rapidly changing, technologically driven global world. The course introduces the concept of Business Design, a holistic approach to management that combines the analytical strengths of traditional business education with the qualitative research, idea generation and the ability to synthesize information from design education. It is a balance of quantitative and qualitative thinking. Design Inquiry is a question-based framework to structure this problem solving process to create innovative solutions that are user-centered, socially, culturally and functionally meaningful and economically sustainable. The challenge associated with this course will be an enterprise risk assessment featuring a specific company and including interviews, tours and other primary (as well as secondary) data gathering principles and processes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may be repeated for additional credit.
MIS 5401. Data Analytics for Management. 1.5 Credit Hour.
Organizations rely on data to make effective decisions, and managers must create a data-driven mindset that uses analytics to drive strategy. In this course, students learn how data is used to support organizational decision-making and solve business problems. Students learn the tools and techniques organizations use to assess, prepare, and analyze data. Students gain hands-on experience through case studies and exercises that require the use of a wide range of data and analytic skills, including statistics. The course includes a data analytics contest involving the analysis, interpretation and reasoning from data provided by corporate and nonprofit partners.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
STAT 5001|Minimum Grade of B-|May not be taken concurrently
OR STAT 5401|Minimum Grade of B-|May be taken concurrently.

MIS 5402. Managing Technology & Systems. 1.5 Credit Hour.
Organizations that strategically select, manage, and deploy digital business models prosper in the global economy. Students will use systems and business process thinking to create and analyze strategies for technology-enabled organizational and industry transformation. They will map systems and processes and propose innovative solutions for new and existing business initiatives to leverage enterprise, consumer, and social technologies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

MIS 5403. Design Inquiry and Research. .5 to 1.5 Credit Hours.
This course forms a foundation of approaches, skills and working methods to be applied throughout the MBA experience. This material is less about a distinct subject and more about a new perspective to effectively meet the business challenges of a rapidly changing, technologically driven global world. The course introduces the concept of Business Design, a holistic approach to management that combines the analytical strengths of traditional business education with the qualitative research, idea generation and the ability to synthesize information from design education. It is a balance of quantitative and qualitative thinking. Design Inquiry is a question-based framework to structure this problem solving process to create innovative solutions that are user-centered, socially, culturally and functionally meaningful and economically sustainable. The challenge associated with this course will be an enterprise risk assessment featuring a specific company and including interviews, tours and other primary (as well as secondary) data gathering principles and processes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may be repeated for additional credit.

MIS 5601. Database Analytics. 1.5 to 3 Credit Hour.
This course provides a foundation for, and practice in, designing database systems and analyzing business data to enhance firm competitiveness. Concepts introduced in this course aim to develop an understanding of the different types of business data, various analytical approaches, and application of these approaches to solve business problems. Students will have hands-on experience with current, cutting-edge tools such as MySQL and SAS Enterprise Miner.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may be repeated for additional credit.

MIS 5602. Applied Predictive Analytics. 1.5 to 3 Credit Hour.
Students will learn how to select relevant variables for analysis, apply the appropriate analytic technique, and interpret the practical implications of the results. Topics also include unstructured “big” data, sentiment analysis, and articulating results to a business audience. Students will have hands-on experience with current, cutting-edge tools such as SAS Enterprise Miner. This course will cover advanced topics needed to resolve more complicated business problems including but not limited to data cleansing and reporting. The foundation, set in MIS 5101, will be strengthened and expanded with more concepts and applications appropriate for solving more challenging business problems and effectively communicating and presenting the output needed to resolve the problem.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may be repeated for additional credit.
MIS 5603. Social Media Innovation. 1.5 to 3 Credit Hour.
This course prepares students to strategically deploy social media solutions to support enterprise innovation. It covers key concepts and principles related to new business models supported by innovative use of Web 2.0 and social media. Through a combination of readings, discussions, presentations, and hands-on projects, we examine (i) the organizational use of key media technologies such as photo and website editing, blogs, web analytics, and search engine optimization, (ii) the business models underlying successful innovative new media organizations including Wikipedia, Craigslist, YouTube, and Facebook, and (iii) the role of centralized, decentralized, and crowdsourced information resources in online media innovation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

MIS 5651. Digital Innovation in Marketing Capstone. 6 Credit Hours.
In this course students are given the opportunity to demonstrate the capabilities they have developed in other portions of the program. This course makes extensive use of case studies and role playing exercises, and/or real world projects. The objective of this course is to expose students to each of the domains covered in the curriculum. Sample contexts for these case studies/projects will be designing and measuring the efficacy of a web marketing strategy across multiple channels, evaluating the suitability for a new digital marketing technology such as mobile apps, portfolio management of digital marketing assets such as mobile apps, websites, social media and others. This is a cohort based program, the first enrollment must be for 6 credits.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

MIS 5801. Managing Information. 2 to 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MIS 5882. Independent Study. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MIS 5890. Special Topics. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MIS 5901. Capstone in Information Technology. 3 Credit Hours.
Open only to M.S. in MIS students who must have completed all 4 core courses and 2 electives. For this capstone experience, students select a topic in their area of interest and write a research paper or implement an information system.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MIS 5902. IT Auditing Capstone. 3 Credit Hours.
In this course students are given the opportunity to demonstrate the capabilities they have developed in other portions of the program. This course makes extensive use of case studies and role playing exercises. Students will explore a comprehensive case study which exposes them to each of the domains covered in the curriculum.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

MIS 5903. Cyber Security Capstone. 3 Credit Hours.
This is the final course in the ITACS cyber security track. The course has two purposes. First, it reviews all of the topics covered in earlier courses and further prepares the students for the SSCP exam. Second, it requires students to integrate what they have learned and research an emerging topic in the field of IT assurance.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.
MIS 9001. Qual & Interpret Meth-IS. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

MIS 9002. Inf Sys Found & Theory. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

MIS 9003. Foundations of Electronic Commerce Research. 3 Credit Hours.
This course offers an overview of electronic commerce research in the domain of Information Systems (IS). An impressive body of work on electronic commerce has developed over the last two decades in IS research, and this course aims at reviewing and integrating this large body of research toward identifying gaps in the literature and proposing new opportunities for research that students can pursue as part of independent research projects. This course overviews the electronic commerce literature in IS research under a framework based on the main entities involved in electronic commerce - businesses and consumers that interact with the aid of Internet technologies, resulting in three broad research areas - (1) Business to Consumer (B2C), (2) Consumer to Consumer (C2C), and (3) Business to Business (B2B). These three broad research areas are further categorized into sixteen specialized topics and sub-areas, which help summarize the literature and integrate the body of work.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may not be repeated for additional credits.

MIS 9004. Adv Research Methods-IS. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

MIS 9011. Proseminar in Management Information Systems. 1 to 3 Credit Hour.
This course is required for all first year PhD in Business Administration - MIS students. It offers an overview of electronic commerce research in the domain of Information Systems (IS) under a framework based on the main entities involved in electronic commerce - businesses and consumers that interact with the aid of Internet technologies, resulting in three broad research areas - (1) Business to Consumer (B2C), (2) Consumer to Consumer (C2C), and (3) Business to Business (B2B). These three broad research areas are further categorized into sixteen specialized topics and sub-areas, which help summarize the literature and integrate the body of work. An impressive body of work on electronic commerce has developed over the last two decades in IS research, and this course aims at reviewing and integrating this large body of research toward identifying gaps in the literature and proposing new opportunities for research that students can pursue as part of independent research projects.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Business Administration.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School, Sport Tourism Hospitality Mgt.
Repeatability: This course may be repeated for additional credit.

MIS 9090. Contemp Topics & Res-IS. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

MIS 9183. Directed Study in MIS. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may be repeated for additional credit.

Management Science/Operations Management (MSOM)
Courses

**MSOM 5001. Operations Management. 1 to 3 Credit Hour.**
The “operations” function is the core of any organization, where inputs such as labor and technology are converted into goods and services. The course provides a survey of several diverse operations topics that are central to both the manufacturing and service sectors of the economy, such as forecasting, inventory control, quality management, production planning, and supply chain management. The emphasis of the course is to apply quantitative models to effectively design and control these operational systems. Software is extensively used to support the operations analysis.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**
- STAT 5001|Minimum Grade of B-|May not be taken concurrently
- OR (MIS 5401|Minimum Grade of B-|May not be taken concurrently)
- AND STAT 5401|Minimum Grade of B-|May not be taken concurrently
- OR (MIS 5301|Minimum Grade of B-|May not be taken concurrently)
- AND STAT 5301|Minimum Grade of B-|May not be taken concurrently

**MSOM 5107. Lean, Six Sigma, and the Science of Improvement. 3 Credit Hours.**
This course provides an outstanding opportunity to learn the basic concepts of improvement science and offers exposure to key tools used in the science and art of improvement. The tools of quality and improvement science are explored, and the student has an opportunity to practice with the tools.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**MSOM 5108. Project Management. 3 Credit Hours.**
This course follows a life-cycle approach to managing projects, beginning with project initiation concerns and ending with project termination. Project planning and scheduling are given the most emphasis, making use of the PERT and CPM approaches. A course project is required.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**MSOM 5111. Optimization Methods. 3 Credit Hours.**
This course covers optimization models, methods, and software applied to solve business problems focusing on models and methods used in computational finance, ranging from asset allocation to risk management, from option pricing to model calibration. Students gain an understanding of linear, quadratic, integer, dynamic, and stochastic programming methods and the tools for implementing these models in practice.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**MSOM 5156. Logistics and Supply Chain Management: Tools, Strategy, and e-Business Issues. 3 Credit Hours.**
One objective of this course is to apprise students of the e-impact on supply chain management (SCM) and, conversely, on how SCM is growing more important as more organizations embrace e-business. The overarching objective, though, is that through this introduction to and survey of the field, students learn what today’s issues in logistics and SCM are and how they are treated. That is, the students are expected not only to grasp what typical logistics and SCM problem areas are, but also to become familiar and competent with some of the analysis tools that managers use to address these problems. This course will be taught online.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**MSOM 5170. Special Topics. 1 to 6 Credit Hour.**
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.
MSOM 5175. Multi-Criteria Decision Analysis. 3 Credit Hours.
Decision-making processes and techniques emphasize that solving problems often entail conflicting criteria. Approaches to incorporating and resolving this conflict are presented.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

MSOM 5182. Independent Study. 1 to 6 Credit Hour.
Special study in a particular aspect of operations research, under direct supervision of a graduate faculty member. No more than six semester hours of independent study may be counted toward degree requirements.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

MSOM 5190. Special Topics - MSOM. 1 to 6 Credit Hour.
Content varies by semester.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

MSOM 5282. Independent Study. 1 to 3 Credit Hour.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

MSOM 5301. Project Management and Capacity Planning. 1.5 Credit Hour.
Managing operations is a critical and integral concern for any organization. Essentially, operations comprises the functional areas of an organization that convert inputs into goods and services. This course will examine the efficient design and control of these activities. Much of the analysis that we carry out involves mathematical modeling and solution of the problems typically encountered across a wide range of service and manufacturing firms. The course will also include techniques for effective project management - techniques that can be immediately applied to the marketing and consulting challenges.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**
- STAT 5301|Minimum Grade of B-|May not be taken concurrently
- OR STAT 5401|Minimum Grade of B-|May not be taken concurrently
- OR STAT 5001|Minimum Grade of B-|May not be taken concurrently.

MSOM 5401. Project Management and Capacity Planning. 1.5 Credit Hour.
Managing operations is a critical and integral concern for any organization. Essentially, operations comprises the functional areas of an organization that convert inputs into goods and services. This course will examine the efficient design and control of these activities. Much of the analysis that we carry out involves mathematical modeling and solution of the problems typically encountered across a wide range of service and manufacturing firms. The course will also include techniques for effective project management - techniques that can be immediately applied to the marketing and consulting challenges.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**
- STAT 5301|Minimum Grade of B-|May not be taken concurrently
- OR STAT 5401|Minimum Grade of B-|May not be taken concurrently
- OR STAT 5001|Minimum Grade of B-|May not be taken concurrently.
MSOM 5806. Managing Operations in the Enterprise. 2 or 3 Credit Hours.
This course entails the study of decision-making techniques applicable to operations in both service and manufacturing enterprises. These techniques are examined as they apply to both traditional organizations and those in the dynamic world of new technology and e-business. The techniques are applied in areas such as supply chains, quality management, capacity planning, and resource allocation. Software is used to help students apply these techniques in course projects related to the workplace.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

MSOM 5882. Independent Study. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

MSOM 5890. Special Topics. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

MSOM 9101. Continuous and Nonlinear Optimization Methods. 3 Credit Hours.
This course will aim to introduce the basic principles of Continuous Non-Linear Optimization and Optimal Control Theory. Some related Non-Linear Optimization and Optimal Control Theory papers (either existing paper or new idea) will be presented by students after lectures.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

MSOM 9102. Linear Optimization Methods. 3 Credit Hours.
This course will cover how to model large-size problems using linear programming and integer programming and solve them using solvers as CPLEX. We will discuss various applications of optimization tools to business problems and discuss various research papers with applications of linear programming and integer programming models.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

MSOM 9103. Combinatorial and Discrete Optimization. 3 Credit Hours.
This class will cover the theory and applications of combinatorial optimization. We introduce graphical and network modeling of problems in transportation and distribution, facility location, communication, scheduling, and staff assignment.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

MSOM 9104. Stochastic Modeling and Optimization. 3 Credit Hours.
This class will introduce students to the modeling of stochastic, or random, phenomena and the application of these models to problems in operations and supply chain management. Topics include Poisson processes, binomial and exponential distributions, Markov chains and their applications (in particular to queueing theory), as well as Markov renewal theory and continuous-time Markov processes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Marketing (MKTG)
Courses

MKTG 5001. Marketing Management/Strategy. 3 Credit Hours.
This course is designed to provide students with an understanding of how firms develop marketing strategies to create and manage the creation of meaningful offers that are valued by consumers for the purpose of developing and maintaining customer relationships. Initially, we will address the evolution of market systems at the macroeconomic level and the role that marketing plays in bridging the gap between the production and consumption sectors of the economy. Subsequently, we will explore how firms develop strategies to create customer value through product management, pricing, marketing channels, supply chain management, customer relationship management and communications directed to buyers and also develop an understanding of how buyers acquire, consume and dispose of these goods and services.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MKTG 5101. Consumer and Buyer Behavior. 3 Credit Hours.
Use of concepts from the behavioral sciences for identifying market segments, predicting customer response to alternative marketing strategies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MKTG 5001|Minimum Grade of B-|May not be taken concurrently
OR (MKTG 5401|Minimum Grade of B-|May not be taken concurrently
AND MKTG 5402|Minimum Grade of B-|May not be taken concurrently
OR (MKTG 5301|Minimum Grade of B-|May not be taken concurrently
AND MKTG 5302|Minimum Grade of B-|May not be taken concurrently
OR MKTG 5303|Minimum Grade of B-|May not be taken concurrently
OR MKTG 5403|Minimum Grade of B-|May not be taken concurrently.

MKTG 5102. Marketing Communications. 3 Credit Hours.
Marketing communications as part of a firm's marketing mix. Dissemination of information is considered through advertising and other forms of communicating demand-influencing ideas.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MKTG 5001|Minimum Grade of B-|May be taken concurrently
OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently
AND MKTG 5402|Minimum Grade of B-|May be taken concurrently
OR (MKTG 5301|Minimum Grade of B-|May be taken concurrently
AND MKTG 5302|Minimum Grade of B-|May be taken concurrently
OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
OR MKTG 5403|Minimum Grade of B-|May be taken concurrently.
MKTG 5103. Marketing Research: Techniques and Application. 3 Credit Hours.
Basic approaches to planning, collecting, analyzing, and communicating information from the marketplace. Techniques and applications for specific marketing areas.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MKTG 5001 Minimum Grade of B- May be taken concurrently
OR MKTG 5401 Minimum Grade of B- May be taken concurrently
AND MKTG 5402 Minimum Grade of B- May be taken concurrently
OR MKTG 5301 Minimum Grade of B- May be taken concurrently
AND MKTG 5302 Minimum Grade of B- May be taken concurrently
OR MKTG 5303 Minimum Grade of B- May be taken concurrently
OR MKTG 5403 Minimum Grade of B- May be taken concurrently
AND STAT 5001 Minimum Grade of B- May be taken concurrently
OR (MIS 5401 Minimum Grade of B- May be taken concurrently
AND STAT 5401 Minimum Grade of B- May be taken concurrently
OR (MIS 5301 Minimum Grade of B- May be taken concurrently
AND STAT 5301 Minimum Grade of B- May be taken concurrently)

MKTG 5104. Marketing Strategy. 3 Credit Hours.
Marketing Strategy provides an executive viewpoint of integrated marketing concepts, including: market analysis, segmentation, targeting, and positioning, and the 4Ps (product, price, promotion, and place). Students learn to apply both strategic and tactical elements of these marketing concepts, integrate these into financial models, and make decisions in realistic environments in order to maximize long term firm value. This course emphasizes skills and experiences in analyzing a business’ situation and formulating, implementing, and monitoring marketing strategy in a competitive environment. In particular, students will be able to select segments in which to compete, develop meaningful points of differentiation and positioning statements, think critically about product design, set prices in a variety of situations, deal with distribution and channel issues, and understand promotion strategies. There is a heavy emphasis on the link between marketing decisions and financial outcomes, as well as on communicating results of analysis to upper management. Note: Prior to fall 2017, the course title was “Managerial Decision Strategies in Marketing”.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MKTG 5001 Minimum Grade of B- May be taken concurrently
OR MKTG 5401 Minimum Grade of B- May be taken concurrently
AND MKTG 5402 Minimum Grade of B- May be taken concurrently
OR MKTG 5301 Minimum Grade of B- May be taken concurrently
AND MKTG 5302 Minimum Grade of B- May be taken concurrently
OR MKTG 5303 Minimum Grade of B- May be taken concurrently
OR MKTG 5403 Minimum Grade of B- May be taken concurrently.

MKTG 5105. Electronic Commerce. 3 Credit Hours.
The principal focus of this course will be on understanding the marketing implications of E-Commerce. In other words, this course is not so much about learning HTML or JavaScript but looking at E-Commerce from a manager’s viewpoint. Students enrolled in this course will learn about how Internet marketing is different from traditional marketing, as well as what this means for traditional concepts like marketing mix, gaining customer loyalty, and making profits. Issues such as E-business models, Internet advertising and pricing, and current state of affairs with respect to B2B auctions and Internet law will also be touched upon in the sessions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MKTG 5001 Minimum Grade of B- May not be taken concurrently
OR MKTG 5401 Minimum Grade of B- May not be taken concurrently
AND MKTG 5402 Minimum Grade of B- May not be taken concurrently
OR MKTG 5301 Minimum Grade of B- May not be taken concurrently
AND MKTG 5302 Minimum Grade of B- May not be taken concurrently
OR MKTG 5303 Minimum Grade of B- May not be taken concurrently
OR MKTG 5403 Minimum Grade of B- May not be taken concurrently.
MKTG 5106. Electronic Channels, Supply Chain, Logistics & Procurement. 3 Credit Hours.
Understanding new models of supply chain logistics and electronic channels as contrasted with traditional channels for creating value for ultimate consumers and end users. Topics include: back-end fulfillment strategies, productivity, customer service, Internet warehousing and transportation systems, order processing, transactions costs efficiency, the role of infomediaries and interorganizational relationships, the use of the internet in customer service, and the role of the internet in the development of procurement strategies, customer oriented shipping tracking and tracking, claims processing and settlements, the management of reverse logistics channels, and in materials handling.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MKTG 5001|Minimum Grade of B-|May not be taken concurrently
OR (MKTG 5401|Minimum Grade of B-|May not be taken concurrently
AND MKTG 5402|Minimum Grade of B-|May not be taken concurrently)
OR (MKTG 5301|Minimum Grade of B-|May not be taken concurrently
AND MKTG 5302|Minimum Grade of B-|May not be taken concurrently)
OR MKTG 5303|Minimum Grade of B-|May not be taken concurrently
AND (MIS 5001|Minimum Grade of B-|May not be taken concurrently
OR MIS 5402|Minimum Grade of B-|May not be taken concurrently
OR MIS 5302|Minimum Grade of B-|May not be taken concurrently)

MKTG 5107. Product Management. 3 Credit Hours.
This course examines the analytical, decision making, and planning concepts and tools available to market, product, and brand managers. Specific decisions to be addressed include: product policy, policy formulation, the selection of product market strategies, new product development, product-line modification, and organizational implications. Emphasis is placed on discussion of cases and relevant readings. Because of the heavy emphasis on interaction, regular and frequent participation will be expected.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MKTG 5001|Minimum Grade of B-|May be taken concurrently
OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently
AND MKTG 5402|Minimum Grade of B-|May be taken concurrently)
OR (MKTG 5301|Minimum Grade of B-|May be taken concurrently
AND MKTG 5302|Minimum Grade of B-|May be taken concurrently
OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
OR MKTG 5403|Minimum Grade of B-|May be taken concurrently

MKTG 5108. Data and Financial Driven Marketing. 3 Credit Hours.
Data and Financial Driven Marketing provides students with an opportunity to analyze data and to recommend business plan implementations of product and commercialization tactics. The class provides a framework for choosing and applying a variety of data and financial analysis driven marketing techniques. The course covers basic methods for determining market level demand, forecasting and pricing models, promotions optimization allocation models, and other elements of ROI/ROMI analysis. The course utilizes CRM and other sources of marketing data base analysis to drive ROI/ROMI forecasts and then uses analyses to discriminate between strategic and tactical alternatives. This course also leverages financial analysis frameworks for customer identification/development, acquisition, satisfaction and retention and for strategy recommendations. Course concepts will be applied to a variety of marketing strategic decisions in both B-2-C and B-2-B situations, including segmentation, targeting, positioning, value proposition determination, new product development, branding, CRM/Loyalty programs and pricing strategies. Note: Prior to fall 2017, the course title was "Data-Driven Marketing."

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MKTG 5001|Minimum Grade of B-|May be taken concurrently
OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently
AND MKTG 5402|Minimum Grade of B-|May be taken concurrently)
OR (MKTG 5301|Minimum Grade of B-|May be taken concurrently
AND MKTG 5302|Minimum Grade of B-|May be taken concurrently)
OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
OR MKTG 5403|Minimum Grade of B-|May be taken concurrently.

MKTG 5109. Mobile Marketing and Communications. 3 Credit Hours.
Mobile devices are becoming the main means of communication and have expanded beyond talking, texting, emailing, video streaming/sharing and surfing the web. Mobile now serves as an intimate, transactional and social connector to consumers - making it a highly desirable communication vehicle for marketers. In this course, students develop a strong knowledge of mobile marketing and communications and apply this new knowledge in the development of a mobile marketing communications plan. Marketing and communication strategies/plans are developed with mobile devices in mind first followed by all other communication vehicles i.e. OOH, direct mail, TV, radio, social, search, print, etc.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MKTG 5001|Minimum Grade of B-|May be taken concurrently
OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently
AND MKTG 5402|Minimum Grade of B-|May be taken concurrently)
OR (MKTG 5301|Minimum Grade of B-|May be taken concurrently
AND MKTG 5302|Minimum Grade of B-|May be taken concurrently)
OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
OR MKTG 5403|Minimum Grade of B-|May be taken concurrently.
MKTG 5111. Customer Data Analytics. 3 Credit Hours.
This course introduces students to methods for analyzing data residing in firms' customer databases. It covers methods for creating profiles of customer segments based on their profitability to the firm, estimate individual customers' lifetime values, and demonstrate how this technique has been used by different organizations. The course also reviews statistical concepts and introduces and uses specialized statistical software, which will be used to conduct a variety of marketing analyses using actual customer databases. Students will acquire skills to construct traditional RFM (recency/frequency/money) analyses to maximize response to marketing campaigns. Using these traditional techniques as a foundation, students develop/build more sophisticated models to predict customer response, such as predicting whether a customer will respond to a particular marketing offer (e.g., direct marketing, mobile marketing, direct mail, etc.). In addition, students construct more advanced models (e.g., logit models, CHAID) to maximize response to marketing campaigns and to compare the effectiveness of alternative models.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MKTG 5001|Minimum Grade of B-|May be taken concurrently
OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently AND MKTG 5402|Minimum Grade of B-|May be taken concurrently)
OR (MKTG 5301|Minimum Grade of B-|May be taken concurrently AND MKTG 5302|Minimum Grade of B-|May be taken concurrently)
OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
OR MKTG 5403|Minimum Grade of B-|May be taken concurrently.

MKTG 5114. Digital and Interactive Marketing Strategy. 3 Credit Hours.
Digital and interactive technologies have become an integral component of daily life for many firms and consumers. Although digital and interactive marketing is an important part of business strategy, the dynamic nature of technology and consumer culture raises strategic and social challenges. This course examines the theories and concepts underlying the use of information and communication technology by firms and consumers, and challenges students to critique and utilize digital tools and social media, including Twitter, Facebook, online reviews, blogs, paid search, digital advertising, and online promotions in achieving marketing objectives. The course examines the theory of digital marketing in both business-to-consumer (B2C) and business-to-business (B2B) markets.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MKTG 5001|Minimum Grade of C|May not be taken concurrently
OR MKTG 5301|Minimum Grade of C|May not be taken concurrently
OR MKTG 5401|Minimum Grade of C|May not be taken concurrently
OR MKTG 5303|Minimum Grade of C|May not be taken concurrently
OR MKTG 5403|Minimum Grade of C|May not be taken concurrently.

MKTG 5115. International Marketing. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MKTG 5118. EMM Capstone. 3 Credit Hours.
MKTG 5118 emphasizes skills and experiences in analyzing a business' situation, customer-buying behavior and formulating, implementing, and monitoring marketing strategy in a competitive environment. In particular, students will be able to select segments in which to compete, develop meaningful points of differentiation and positioning statements, think critically about product design and management, set prices in a variety of situations, deal with a variety of distribution and channel issues, and understand promotion strategies. Marketing Strategy provides executive leadership practice and viewpoint of integrated marketing concepts, including: market analysis, segmentation, targeting, and positioning, and the 4Ps (product, price, promotion, and place). Students learn to apply team leadership practices, and both strategic and tactical elements of these marketing concepts, integrate these into financial models, and make decisions in realistic environments in order to maximize long term firm value. For this course, there is a heavy emphasis on the link between marketing decisions and financial outcomes, as well as on communicating results of analysis to upper management. There is a heavy focus on the group assessment (deliverables) in the course, but also opportunity for individual students to get feedback and development insights.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
MKTG 5155. Elec Supply Chain Mgt. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MKTG 5156. Mktg Mgt-Digital Mktplac. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MKTG 5170. Special Topics in Marketing. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
MKTG 5001|Minimum Grade of B-|May be taken concurrently
OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently
AND MKTG 5402|Minimum Grade of B-|May be taken concurrently)
OR (MKTG 5301|Minimum Grade of B-|May be taken concurrently
AND MKTG 5302|Minimum Grade of B-|May be taken concurrently)
OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
OR MKTG 5403|Minimum Grade of B-|May be taken concurrently.

MKTG 5180. Special Topics in Marketing. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
MKTG 5001|Minimum Grade of B-|May be taken concurrently
OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently
AND MKTG 5402|Minimum Grade of B-|May be taken concurrently)
OR (MKTG 5301|Minimum Grade of B-|May be taken concurrently
AND MKTG 5302|Minimum Grade of B-|May be taken concurrently)
OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
OR MKTG 5403|Minimum Grade of B-|May be taken concurrently.

MKTG 5182. Independent Study. 1 to 6 Credit Hour.
Supervised individual reading and research projects.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
MKTG 5001|Minimum Grade of B-|May be taken concurrently
OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently
AND MKTG 5402|Minimum Grade of B-|May be taken concurrently)
OR (MKTG 5301|Minimum Grade of B-|May be taken concurrently
AND MKTG 5302|Minimum Grade of B-|May be taken concurrently)
OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
OR MKTG 5403|Minimum Grade of B-|May be taken concurrently.
MKTG 5190. Special Topics in Marketing. 1 to 6 Credit Hour.
Special topics courses analyze emerging issues or specialized content that are not covered in regular semester courses.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
MKTG 5001 | Minimum Grade of B- | May be taken concurrently
OR (MKTG 5401 | Minimum Grade of B- | May be taken concurrently
AND MKTG 5402 | Minimum Grade of B- | May be taken concurrently
OR (MKTG 5301 | Minimum Grade of B- | May be taken concurrently
AND MKTG 5302 | Minimum Grade of B- | May be taken concurrently
OR MKTG 5303 | Minimum Grade of B- | May be taken concurrently
OR MKTG 5403 | Minimum Grade of B- | May be taken concurrently.

MKTG 5282. Independent Study. 1 to 3 Credit Hour.
Special study is undertaken in a particular aspect of marketing, under the direct supervision of an appropriate graduate faculty member. No more than six semester hours of independent study may be counted toward degree requirements.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
MKTG 5001 | Minimum Grade of B- | May be taken concurrently
OR (MKTG 5401 | Minimum Grade of B- | May be taken concurrently
AND MKTG 5402 | Minimum Grade of B- | May be taken concurrently
OR (MKTG 5301 | Minimum Grade of B- | May be taken concurrently
AND MKTG 5302 | Minimum Grade of B- | May be taken concurrently
OR MKTG 5303 | Minimum Grade of B- | May be taken concurrently
OR MKTG 5403 | Minimum Grade of B- | May be taken concurrently.

MKTG 5301. Market Analysis & Management. 1.5 Credit Hour.
This course is designed to provide students with an introduction to marketing theory, strategies and practice. Through this course students will learn to conduct market research, analyze research data, assess market opportunities, and generate effective conclusions. These objectives are accomplished by combining readings, lectures, workshops, business analysis, coaching from industry advisors and professors, and commercial grade work on a consulting project for an external client.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Co-requisites: MKTG 5302.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(STAT 5301 | Minimum Grade of B- | May not be taken concurrently)
AND (MIS 5301 | Minimum Grade of B- | May not be taken concurrently)

MKTG 5302. Marketing Strategy & Planning. 1.5 Credit Hour.
Through this course, students will set clear marketing objectives; integrate marketing strategy components to achieve those objectives; develop a branding, messaging, and promotional plan; set a marketing strategy budget; and establish metrics to monitor the performance of a marketing strategy - all within the context of a rapidly evolving interactive, digital landscape. These objectives are accomplished by combining readings, lectures, workshops, business analysis, coaching from industry advisors and professors, and commercial grade work on a consulting project for an external client.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Co-requisites: MKTG 5301.

Repeatability: This course may not be repeated for additional credits.
MKTG 5303. Market Analysis and Strategy. 3 Credit Hours.
MKTG 5303 is a 3-credit course that provides participants with an opportunity to utilize market research, analysis, and related insights to develop an integrated marketing strategy for an existing company. The course is designed to provide students with an introduction to marketing theory, strategy and practice. During the first part of the course, students learn to conduct market research, analyze research data, assess market opportunities, and generate effective conclusions. Building from their findings and company goals, students then set clear marketing objectives; integrate marketing strategy components to achieve those objectives; develop a branding, messaging, and promotional plan; set a marketing strategy budget; and establish metrics to monitor the performance of a marketing strategy - all within the context of a rapidly evolving interactive, digital landscape. These objectives are accomplished through a combination of readings, lectures, workshops, practice, coaching from industry advisors and professors, and commercial grade market research, strategy formation and planning for a firm.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may not be repeated for additional credits.

MKTG 5401. Market Analysis & Management. 1.5 Credit Hour.
This course is designed to provide students with an introduction to marketing theory, strategies and practice. Through this course students will learn to conduct market research, analyze research data, assess market opportunities, and generate effective conclusions. These objectives are accomplished by combining readings, lectures, workshops, business analysis, coaching from industry advisors and professors, and commercial grade work on a consulting project for an external client.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Co-requisites: MKTG 5402.
Repeatability: This course may not be repeated for additional credits.
Pre-requisites:
(STAT 5301|Minimum Grade of B-|May not be taken concurrently
OR STAT 5401|Minimum Grade of B-|May not be taken concurrently)
AND (MIS 5301|Minimum Grade of B-|May not be taken concurrently
OR MIS 5401|Minimum Grade of B-|May not be taken concurrently)

MKTG 5402. Marketing Strategy & Planning. 1.5 Credit Hour.
Through this course, students will set clear marketing objectives; integrate marketing strategy components to achieve those objectives; develop a branding, messaging, and promotional plan; set a marketing strategy budget; and establish metrics to monitor the performance of a marketing strategy - all within the context of a rapidly evolving interactive, digital landscape. These objectives are accomplished by combining readings, lectures, workshops, business analysis, coaching from industry advisors and professors, and commercial grade work on a consulting project for an external client.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Co-requisites: MKTG 5401.
Repeatability: This course may not be repeated for additional credits.

MKTG 5403. Market Analysis and Strategy. 3 Credit Hours.
MKTG 5403 is a 3-credit course that provides participants with an opportunity to utilize market research, analysis, and related insights to develop an integrated marketing strategy for an existing company. The course is designed to provide students with an introduction to marketing theory, strategy and practice. During the first part of the course, students learn to conduct market research, analyze research data, assess market opportunities, and generate effective conclusions. Building from their findings and company goals, students then set clear marketing objectives; integrate marketing strategy components to achieve those objectives; develop a branding, messaging, and promotional plan; set a marketing strategy budget; and establish metrics to monitor the performance of a marketing strategy - all within the context of a rapidly evolving interactive, digital landscape. These objectives are accomplished through a combination of readings, lectures, workshops, practice, coaching from industry advisors and professors, and commercial grade market research, strategy formation and planning for a firm.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may not be repeated for additional credits.
MKTG 5502. International Marketing Management. 3 Credit Hours.
Identifying and analyzing worldwide marketing opportunities, and generating strategies for capitalizing on them. Impact of environmental differences on marketing strategies and customer response.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MKTG 5001|Minimum Grade of B-|May be taken concurrently
OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently
AND MKTG 5402|Minimum Grade of B-|May be taken concurrently)
OR (MKTG 5301|Minimum Grade of B-|May be taken concurrently
AND MKTG 5302|Minimum Grade of B-|May be taken concurrently)
OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
OR MKTG 5403|Minimum Grade of B-|May be taken concurrently.

MKTG 5601. Database Marketing. 1.5 to 3 Credit Hour.
Information has become a valuable strategic asset and successful management of market information is essential for a firm's sustained profitability. This course provides the basics for data management that underlie organizations in the "Information Age." The course analyzes the strategic role played by information and develops the skills required to manage information by using databases. The course will emphasize marketing applications that illustrate how to organize and manage available information assets to address specific strategic objectives and needs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may be repeated for additional credit.

MKTG 5602. Quantitative Methods in Marketing. 1.5 to 3 Credit Hour.
This course will emphasize the use and practice of Marketing Metrics: the collection, analysis, and utilization of data for the development of marketing strategies. The course includes the study of data collection, warehousing technologies, marketing information systems, data mining, and customer relationship management. Particular attention is paid to interpretation of quantitative data (marketing dashboards).

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may be repeated for additional credit.

MKTG 5603. Direct Marketing. 1.5 Credit Hour.
Students are introduced to the scope of direct marketing including mail order, lead generation, circulation, relationship/loyalty programs, store traffic/site traffic building, fund raising, pre-selling, selling (cross-selling as well as selling-up), post-selling and research. Initially, the course will address how direct marketing varies from other forms of marketing and where its practice is most appropriate. Subsequently, the course covers how firms develop direct marketing programs for purposes of direct sale, lead generation or traffic generation using various direct marketing media such as: direct mail, broadcast, print advertising, catalogs, co-ops, telemarketing, Internet, inserts, videos, e-mail and trade shows. Various approaches for stimulating action and the measurability and accountability of direct marketing and its relationship to the total marketing mix are stressed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may be repeated for additional credit.

MKTG 5604. Digital Marketing. 1.5 to 3 Credit Hour.
This course emphasizes the use and practice of direct marketing including mail order, lead generation, circulation, relationship/loyalty programs, store traffic/site traffic building, fund raising, pre-selling, selling (cross-selling as well as selling-up), post-selling and research. The course covers how firms develop direct marketing programs for purposes of direct sale, lead generation or traffic generation using various direct marketing media such as: direct mail, broadcast, print advertising, catalogs, co-ops, telemarketing, Internet, inserts, videos, e-mail and trade shows. Various approaches for stimulating action and the measurability and accountability of direct marketing and its relationship to the total marketing mix are stressed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may be repeated for additional credit.
MKTG 5605. Digital Innovation in Product Management and Branding. 1.5 to 3 Credit Hour.
In this course we review concepts and principles related to building and maintaining a brand in the digital environment. Topics include developing a strategy for your brand, the content to support that strategy and then how to communicate that content. How do you manage your products and brand over time and what analytics are used to keep your strategy on-track. Finally, global and legal implications are considered.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

MKTG 5606. Digital Innovation in Mobile Marketing and Communication. 1.5 to 3 Credit Hour.
In this course students will learn how to develop a mobile marketing strategy with the target audience in mind as well as how to effectively integrate that mobile marketing as a part of their overall brand and business strategy. They will then learn to convert that strategy into an effective campaign using the appropriate mobile tools. Lastly, they will learn how to track and measure the effectiveness of that campaign.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

MKTG 5611. Consumer Behavior 1: Thoughtful Decisions. 1.5 Credit Hour.
This course is part one of a two course mini-sequence examining consumer behavior and strategy. This part of the course focuses upon consumer behavior when decisions are more thoughtful and consequential - the kind of decisions that tend to make people think. Effective management results not from simply memorizing facts and vocabulary, but rather from systematic critical thinking, reasoned application of underlying principles, and strong analyses; this course is designed to encourage all of these skills.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Business Admin, Master of Science.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MKTG 5301|Minimum Grade of B-|May be taken concurrently
AND MKTG 5302|Minimum Grade of B-|May be taken concurrently)
OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently
AND MKTG 5402|Minimum Grade of B-|May be taken concurrently)
OR MKTG 5001|Minimum Grade of B-|May be taken concurrently
OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
OR MKTG 5403|Minimum Grade of B-|May be taken concurrently.

MKTG 5612. Consumer Behavior 2: Consumers as non-rational decision makers. 1.5 Credit Hour.
This course is part two of a two course sequence examining consumer behavior and strategy; this part of the course focuses upon consumer behavior when decisions are less thoughtful and consequential - the kind of decisions that people make every day without thinking very long or hard about them (e.g., what orange juice to buy, what to eat for lunch, what to buy in the grocery store). Effective management results not from simply memorizing facts and vocabulary, but rather from systematic critical thinking, reasoned application of underlying principles, and strong analyses. The course is designed to encourage all of these skills as applied to managerial marketing strategy decisions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Business Admin, Master of Science.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
((MKTG 5301|Minimum Grade of B-|May be taken concurrently
AND MKTG 5302|Minimum Grade of B-|May be taken concurrently)
OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently
AND MKTG 5402|Minimum Grade of B-|May be taken concurrently)
OR MKTG 5001|Minimum Grade of B-|May be taken concurrently
OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
OR MKTG 5403|Minimum Grade of B-|May be taken concurrently)
AND (MKTG 5611|Minimum Grade of B-|May be taken concurrently)
MKTG 5613. Customer Data Analytics 1. 1.5 Credit Hour.
This course introduces students to methods for analyzing data residing in firms' customer databases. It will cover ways to profile customer segments based on their profitability to the firm, estimate individual customer's lifetime value, and demonstrate how this technique has been used in different organizations. The course will also review statistical concepts and introduce the software package SPSS, which is used to conduct a variety of marketing analyses using actual customer databases. Students will acquire skills to construct traditional RFM (recency/frequency/monetary) analyses to maximize response to marketing campaigns.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Business Admin, Master of Science.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MKTG 5301|Minimum Grade of B-|May be taken concurrently
AND MKTG 5302|Minimum Grade of B-|May be taken concurrently)
OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently
AND MKTG 5402|Minimum Grade of B-|May be taken concurrently)
OR MKTG 5001|Minimum Grade of B-|May be taken concurrently
OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
OR MKTG 5403|Minimum Grade of B-|May be taken concurrently.

MKTG 5614. Customer Data Analytics 2. 1.5 Credit Hour.
Building on concepts learned during Customer Analytics 1, students will build more sophisticated models to predict customer response, such as predicting whether a customer will respond to a particular marketing offer (e.g. a direct mailing). Students will acquire skills to construct more advanced models (e.g., logit models, CHAID) to maximize response to marketing campaigns and to compare the effectiveness of alternative models. SPSS software will be utilized.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Business Admin, Master of Science.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
((MKTG 5301|Minimum Grade of B-|May be taken concurrently
AND MKTG 5302|Minimum Grade of B-|May be taken concurrently)
OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently
AND MKTG 5402|Minimum Grade of B-|May be taken concurrently)
OR MKTG 5001|Minimum Grade of B-|May be taken concurrently
OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
OR MKTG 5403|Minimum Grade of B-|May be taken concurrently)
AND (MKTG 5613|Minimum Grade of B-|May be taken concurrently)

MKTG 5615. Database Management in Marketing 1. 1.5 Credit Hour.
This course focuses on principles used in managing and maintaining marketing data. It will cover the strategic role played by data, the skills required to manage data by using database management systems, and marketing applications to illustrate the multiple uses of data in databases. It will cover basic modeling, normalization, queries, and database administration.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Business Admin, Master of Science.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MKTG 5301|Minimum Grade of B-|May be taken concurrently
AND MKTG 5302|Minimum Grade of B-|May be taken concurrently)
OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently
AND MKTG 5402|Minimum Grade of B-|May be taken concurrently)
OR MKTG 5001|Minimum Grade of B-|May be taken concurrently
OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
OR MKTG 5403|Minimum Grade of B-|May be taken concurrently.
MKTG 5616. Database Management in Marketing 2. 1.5 Credit Hour.
This course focuses on principles used in managing and maintaining marketing data. It will build on the foundation covered in Database Management in Marketing 1 to cover in-depth conceptual modeling, normalization, queries, and database administration.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Business Admin, Master of Science.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
((MKTG 5301|Minimum Grade of B-|May be taken concurrently
AND MKTG 5302|Minimum Grade of B-|May be taken concurrently)
OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently
AND MKTG 5402|Minimum Grade of B-|May be taken concurrently)
OR MKTG 5001|Minimum Grade of B-|May be taken concurrently
OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
OR MKTG 5403|Minimum Grade of B-|May be taken concurrently)
AND (MKTG 5615|Minimum Grade of B-|May be taken concurrently)

MKTG 5617. Market Research 1: Foundations of Marketing Research. 1.5 Credit Hour.
This course presents a managerial perspective of marketing research. It focuses on developing skills for systematic problem analysis and to translate management problems into appropriate market research questions. The course also introduces and discusses primary and secondary sources of marketing research data (including the more recent advances in social media techniques), the questionnaire design, sampling schemes, and basic data analysis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Business Admin, Master of Science.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
((MKTG 5301|Minimum Grade of B-|May be taken concurrently
AND MKTG 5302|Minimum Grade of B-|May be taken concurrently)
OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently
AND MKTG 5402|Minimum Grade of B-|May be taken concurrently)
OR MKTG 5001|Minimum Grade of B-|May be taken concurrently
OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
OR MKTG 5403|Minimum Grade of B-|May be taken concurrently)

MKTG 5618. Market Research 2: Marketing Intelligence. 1.5 Credit Hour.
Marketing Intelligence is an advanced level marketing course designed for users of market intelligence in consulting, marketing management, entrepreneurship, and finance to help you avoid drowning in data, become a more sophisticated user by assuming the role of research provider and by providing practice as evaluator of research, and improve your ability to use imperfect information to make decisions. This course is designed as a sequel to MKTG 5617 (Market Research 1: Foundations of Marketing Research). However, it can be taken independently. It will be necessary for students to read and understand the background material though. Students are expected to have a well-rounded background in marketing research including survey design, sampling and measurement tools.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Business Admin, Master of Science.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
((MKTG 5301|Minimum Grade of B-|May be taken concurrently
AND MKTG 5302|Minimum Grade of B-|May be taken concurrently)
OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently
AND MKTG 5402|Minimum Grade of B-|May be taken concurrently)
OR MKTG 5001|Minimum Grade of B-|May be taken concurrently
OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
OR MKTG 5403|Minimum Grade of B-|May be taken concurrently)
AND (MKTG 5617|Minimum Grade of B-|May be taken concurrently
AND (STAT 5001|Minimum Grade of B-|May be taken concurrently
OR STAT 5301|Minimum Grade of B-|May be taken concurrently
OR STAT 5401|Minimum Grade of B-|May be taken concurrently)
MKTG 5621. Integrated Marketing Communications. 1.5 Credit Hour.
MKTG 5621 provides the graduate student with a strategic framework for understanding integrated marketing communication issues. The course conveys a set of working, functional skills useful in addressing common problems and opportunities in advertising, communications, and promotion management.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MKTG 5001|Minimum Grade of B-|May be taken concurrently
OR (MKTG 5301|Minimum Grade of B-|May be taken concurrently
AND MKTG 5302|Minimum Grade of B-|May be taken concurrently)
OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently
AND MKTG 5402|Minimum Grade of B-|May be taken concurrently)
OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
OR MKTG 5403|Minimum Grade of B-|May be taken concurrently.

MKTG 5622. Advertising and Account Management. 1.5 Credit Hour.
This course is designed to introduce students to the activities involved in management and administration of advertising campaign work to ensure communications projects are completed on time and on budget. Advertising Account Managers serve as the link between clients and the agency; they are responsible for the coordination of advertising campaigns and communicating clearly to all those involved. As such, Advertising Account Managers understand the communication goals, needs and objectives and liaise closely with vendors, media, and suppliers throughout campaigns, often on a daily basis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MKTG 5001|Minimum Grade of B-|May be taken concurrently
OR (MKTG 5301|Minimum Grade of B-|May be taken concurrently
AND MKTG 5302|Minimum Grade of B-|May be taken concurrently)
OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently
AND MKTG 5402|Minimum Grade of B-|May be taken concurrently)
OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
OR MKTG 5403|Minimum Grade of B-|May be taken concurrently.

MKTG 5623. Direct Marketing 1. 1.5 Credit Hour.
Marketing is becoming more complex and interconnected with the advent of new technology and media and devices. Although not a "new" phenomena, direct marketing (and by association, Interactive and Multi-Channel marketing) is ideally suited to leverage the dynamic evolution in computer and media technology. When used as a strategic tool, direct marketing represents the most advanced, and most important, components of modern integrated marketing. MKTG 5623 conveys a set of working, functional skills useful in addressing common problems and opportunities in contemporary direct marketing.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MKTG 5001|Minimum Grade of B-|May be taken concurrently
OR (MKTG 5301|Minimum Grade of B-|May be taken concurrently
AND MKTG 5302|Minimum Grade of B-|May be taken concurrently)
OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently
AND MKTG 5402|Minimum Grade of B-|May be taken concurrently)
OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
OR MKTG 5403|Minimum Grade of B-|May be taken concurrently.
MKTG 5624. Direct Marketing 2: Program Design, Deployment and Evaluation. 1.5 Credit Hour.

When used as a strategic tool, direct marketing represents the most advanced, and most important, components of modern integrated marketing. MKTG 5624 conveys a set of working, functional skills useful in addressing common problems and opportunities in contemporary direct marketing. Students will learn the principles of strategic perspectives in direct marketing and gain an overview of the basic data analysis and tactics for targeting, testing, and measuring direct marketing programs.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

- MKTG 5001|Minimum Grade of B-|May be taken concurrently
- OR (MKTG 5301|Minimum Grade of B-|May be taken concurrently
- AND MKTG 5302|Minimum Grade of B-|May be taken concurrently)
- OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently
- AND MKTG 5402|Minimum Grade of B-|May be taken concurrently)
- OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
- OR MKTG 5403|Minimum Grade of B-|May be taken concurrently.

MKTG 5625. Digital Marketing 1: Foundations and Theories. 1.5 Credit Hour.

Digital technologies have become an integral component of daily life for many firms and consumers. Although digital marketing is an important part of business strategy, the dynamic nature of technology and consumer culture raises many strategic and social challenges. This course examines the theories and concepts underlying the use of information and communication technology by firms and consumers, and challenges students to critique and utilize digital tools and social media, including Twitter, Facebook, online reviews, blogs, paid search, digital advertising, and online promotions. The course examines the theory of digital marketing in both business-to-consumer (B2C) and business-to-business (B2B) markets.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

- (MKTG 5301|Minimum Grade of B-|May be taken concurrently
- AND MKTG 5302|Minimum Grade of B-|May be taken concurrently)
- OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently
- AND MKTG 5402|Minimum Grade of B-|May be taken concurrently)
- OR MKTG 5001|Minimum Grade of B-|May be taken concurrently
- OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
- OR MKTG 5403|Minimum Grade of B-|May be taken concurrently.

MKTG 5626. Digital Marketing 2: Program Design and Evaluation. 1.5 Credit Hour.

Although digital marketing is an important part of business strategy, the dynamic nature of technology and consumer culture raises many strategic and social challenges. This course examines and utilizes digital tools and social media, including Twitter, Facebook, online reviews, blogs, paid search, digital advertising, and online promotions. Evaluation of the critical success factors and best practices are central to the course, as are quantitative methods for analyzing marketing effectiveness. The course examines the realities of digital marketing in both business-to-consumer (B2C) and business-to-business (B2B) markets.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

- (MKTG 5301|Minimum Grade of B-|May be taken concurrently
- AND MKTG 5302|Minimum Grade of B-|May be taken concurrently)
- OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently
- AND MKTG 5402|Minimum Grade of B-|May be taken concurrently)
- OR MKTG 5001|Minimum Grade of B-|May be taken concurrently
- OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
- OR MKTG 5403|Minimum Grade of B-|May be taken concurrently
- AND MKTG 5625|Minimum Grade of B-|May be taken concurrently)
MKTG 5635. New Product Development: Strategy and Process. 1.5 Credit Hour.
This course examines the analytical, decision making, and planning concepts and tools available for innovations in marketing management. Specific decisions to be addressed include: fostering innovation in marketing, the selection of innovation strategies and platforms, introduction to the new product development process, and organizational implications. Emphasis is placed on discussion of cases and relevant readings. Students will be given a great deal of flexibility in choosing their particular product development interest(s) and focusing on it during the course. Because of the heavy emphasis on interaction, regular and frequent participation will be expected.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MKTG 5001|Minimum Grade of B-|May be taken concurrently
OR (MKTG 5301|Minimum Grade of B-|May be taken concurrently
AND MKTG 5302|Minimum Grade of B-|May be taken concurrently)
OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently
AND MKTG 5402|Minimum Grade of B-|May be taken concurrently)
OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
OR MKTG 5403|Minimum Grade of B-|May be taken concurrently.

MKTG 5636. Product and Brand Management. 1.5 Credit Hour.
This course examines the analytical, decision making, and planning concepts and tools available to brand managers and new product developers. Specific decisions to be addressed include: brand and product policy formulation, the selection of branding strategies, brand and product development, brand measurement, and organizational implications. Emphasis is placed on discussion of cases and relevant readings. Students will be given a great deal of flexibility in choosing their own particular product development interest(s) and focusing on it during the course. Because of the heavy emphasis on interaction, regular and frequent participation will be expected.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MKTG 5001|Minimum Grade of B-|May be taken concurrently
OR (MKTG 5301|Minimum Grade of B-|May be taken concurrently
AND MKTG 5302|Minimum Grade of B-|May be taken concurrently)
OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently
AND MKTG 5402|Minimum Grade of B-|May be taken concurrently)
OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
OR MKTG 5403|Minimum Grade of B-|May be taken concurrently.

MKTG 5637. Marketing and Cross Cultural Problem Solving 1. 1.5 Credit Hour.
This course provides students with additional skills in understanding the dynamics of problem solving within the contexts of global marketing. It will assist them in handling the rigors of problem-solving in complex, cross-cultural business environments. The course employs a hybrid (in-class and online) approach and will engage students in experiential learning around three distinct areas of theory: Hofstede's Cultural Dimensions, Kirton’s Problem Solving, and the Myer-Briggs Temperament Indicator (MBTI). Emphasis will be on enhancing problem solving skills in global marketing situations. We will also explore concepts in classroom and online discussions and case presentations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MKTG 5001|Minimum Grade of B-|May be taken concurrently
OR (MKTG 5301|Minimum Grade of B-|May be taken concurrently
AND MKTG 5302|Minimum Grade of B-|May be taken concurrently)
OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently
AND MKTG 5402|Minimum Grade of B-|May be taken concurrently)
OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
OR MKTG 5403|Minimum Grade of B-|May be taken concurrently.
MKTG 5638. Marketing and Cross Cultural Problem Solving 2. 1.5 Credit Hour.
This course enables graduate students to apply skills learned in Marketing and Cross Cultural Problem Solving 1 by having them analyze and develop case studies based on international marketing situations that include a clear cultural component contributing to business and marketing problems. Students will apply the rigors of problem-solving in complex, cross-cultural business environments. The course employs a hybrid (in-class and online) approach and will engage students in experiential learning around three distinct areas of theory: Hofstede's Cultural Dimensions, Kirton's Problem Solving, and the Myer-Briggs Temperament Indicator (MBTI). Emphasis will be on enhancing problem solving skills in global marketing situations. The course explores concepts in classroom and online discussions and case presentations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MKTG 5001|Minimum Grade of B-|May be taken concurrently
OR (MKTG 5301|Minimum Grade of B-|May be taken concurrently
AND MKTG 5302|Minimum Grade of B-|May be taken concurrently
OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently
AND MKTG 5402|Minimum Grade of B-|May be taken concurrently
OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
OR MKTG 5403|Minimum Grade of B-|May be taken concurrently
AND (MKTG 5637|Minimum Grade of B-|May be taken concurrently

MKTG 5641. Methods and Tools in Marketing Strategy Decisions. 1.5 Credit Hour.
This course is the capstone course in marketing emphasizing strategic aspects of decision making in a marketing environment. The course utilizes decision theory and quantitative methods in considering alternatives when formulating strategic plans; case studies are used.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MKTG 5001|Minimum Grade of B-|May be taken concurrently
OR (MKTG 5301|Minimum Grade of B-|May be taken concurrently
AND MKTG 5302|Minimum Grade of B-|May be taken concurrently
OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently
AND MKTG 5402|Minimum Grade of B-|May be taken concurrently
OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
OR MKTG 5403|Minimum Grade of B-|May be taken concurrently
AND (MKTG 5641|Minimum Grade of B-|May be taken concurrently

MKTG 5642. Critical Analysis of Strategic Decisions in Marketing Management. 1.5 Credit Hour.
Second half of the capstone course in marketing emphasizing strategic aspects of decision making in a marketing environment. Utilizes decision theory and quantitative methods in considering alternatives when formulating strategic plans. Case studies used.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MKTG 5001|Minimum Grade of B-|May be taken concurrently
OR (MKTG 5301|Minimum Grade of B-|May be taken concurrently
AND MKTG 5302|Minimum Grade of B-|May be taken concurrently
OR (MKTG 5401|Minimum Grade of B-|May be taken concurrently
AND MKTG 5402|Minimum Grade of B-|May be taken concurrently
OR MKTG 5303|Minimum Grade of B-|May be taken concurrently
OR MKTG 5403|Minimum Grade of B-|May be taken concurrently
AND (MKTG 5641|Minimum Grade of B-|May be taken concurrently

MKTG 5680. Special Topics. 1 to 6 Credit Hour.
Supervised individual or small group reading, research projects, or experiences based on cutting edge topics in Marketing.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
MKTG 5682. Independent Study. 1 to 6 Credit Hour.
Supervised individual reading and research projects.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MKTG 5690. Special Topics. 1 to 6 Credit Hour.
Supervised individual or small group reading, research projects, or experiences based on cutting edge topics in Marketing.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MKTG 5801. Marketing Management in the Enterprise. 3 Credit Hours.
Limited to students matriculated in the Executive M.B.A. program. In this course, you'll develop a firmer grasp on the strategic aspects of marketing decisions within the context of the total enterprise. You'll also analyze marketing management practices, organization and decision processes through traditional and internet-based business case studies involving product development, segmentation, pricing, promotion, distribution and implementation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MKTG 5882. Independent Study. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MKTG 5890. Special Topics in Marketing. 1 to 6 Credit Hour.
Special topics courses analyze emerging issues or specialized content that are not covered in regular semester courses.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MKTG 9001. Sem-Marketing Theory Dev. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MKTG 9002. Sem-Behavior Res-Mktg. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MKTG 9003. Sem-Quant Research-Mktg. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MKTG 9005. Seminar in Judgment and Decision Making. 3 Credit Hours.
This course introduces students to research in the field of Judgment and Decision Making (JDM). In addition to gaining an exposure to this interdisciplinary research area that employs concepts and tools from economics, statistics, as well as the core discipline of psychology, students will also learn to apply these concepts to business problems in management, marketing, operations, accounting, and finance.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Philosophy.

Repeatability: This course may not be repeated for additional credits.
MKTG 9011. Proseminar in Marketing. 1 to 3 Credit Hour.
The Marketing PhD Pro-seminar provides doctoral students with an opportunity to learn about the range of academic research in marketing, and about marketing academic careers. Through critiques of academic research articles and discussions with other students and multiple faculty members, students will gain insights into research process, and the expectations of the marketing academic community. The course assignments and discussions help to build student research capability, and support student development of a research paper proposal on a topic of the student's choice.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Business Administration.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School, Sport Tourism Hospitality Mgt.

Repeatability: This course may be repeated for additional credit.

MKTG 9090. Sem-Sel Topics in Mktg. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MKTG 9183. Directed Study in Marketing. 1 to 6 Credit Hour.
Directed Study in Marketing
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Master of Liberal Arts (MLA)

Courses
MLA 5011. Introduction to Interdisciplinary Studies. 3 Credit Hours.
This course introduces students to interdisciplinary graduate studies and to cultural analysis by looking at the kinds of questions that can best be answered through an interdisciplinary approach and with various available methodologies. Taking American culture as its primary focus, students read texts in areas such as Visual Culture, American Studies, Women's Studies, and the Arts and Society. Topics include, for example: cultural representations of gender and sexualities, and of race and "whiteness"; the social construction of space and place; technology and its construction of identity; boundaries of culture and consumption (high, low, middlebrow); museums and cultural memory.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MLA 5082. Independent Study. 1 to 3 Credit Hour.
Students who wish to enroll for Independent Study must submit a proposal written under the direction of a faculty member who will supervise the student's work. This proposal must be submitted the semester before the Independent Study is to take place. The proposal should describe the project, indicate a) works to be read, b) frequency of student-instructor meetings, c) student writing to be produced, and d) means of student evaluation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MLA 5110. Topics in the Arts and American Culture. 3 Credit Hours.
This course explores the relationship between the arts and American culture, with an emphasis on how music, literature, and visual arts have reflected social, political, and intellectual concerns. The levels of art, from high to middlebrow to popular, will also be considered, with attention to the cross influences from one to the other, and the question of audience.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MLA 5120. Topics in Cultural Studies. 3 Credit Hours.
This course examines topics relating to popular culture, media, and advertising, with an emphasis on how cultural representations reflect social and political interests. The approach embraces various competing disciplines (e.g., literature, anthropology, philosophy) at the intersection of aesthetics and politics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
MLA 5130. Topics in Visual Culture. 3 Credit Hours.
An exploration of photography, film, television, and other visual media, in terms of the ways they interpret the world. Some of the issues considered will be: What are the elements of the visual? How are race, ethnicity, gender, and sexuality represented in the media? How do visual media interact with one another?

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

MLA 5140. Topics in Performance Studies. 3 Credit Hours.
Performance Studies encompasses dance, theater, and mixed media theatrical presentations, from street theater to happenings to public ritual. The course targets specific topics ranging from historical studies to the contemporary.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

MLA 5150. Topics in Gender Studies. 3 Credit Hours.
The changing constructions of gender are the subject of this course which will explore such topics as representations of masculinity; feminist theory and the academy; the sexual revolution; society and homosexuality.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

MLA 5160. Topics in Environmental Studies. 3 Credit Hours.
This course explores a wide range of environmental issues and the various factors that define those issues, encompassing physical, economic, political, demographic, and ethical considerations. Possible topics include groundwater contamination, suburban sprawl, river basin management, environmental justice, and the greening of abandoned urban spaces. It may also include an examination of the cultural meaning of the environment and its representation in art and literature.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

MLA 5171. Intellectual Heritage, MLA. 3 Credit Hours.
This course may focus on a number of diverse topics depending on the instructor: e.g., the Greek foundations of modern thought; the religious texts that provide an important underpinning for Western Civilization; the Enlightenment commitment to reason, science, and the essential goodness and individuality of man; Romanticism and its emphasis on feelings and the imagination; great thinkers of the nineteenth, twentieth, and twenty first centuries.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

MLA 5180. Ways of Seeing. 3 Credit Hours.
Our educational system tends to neglect the visual world, despite our growing dependence on pictorial and visual information. Using methods from anthropology, psychology, communications theory, and art history, this course will explore nonverbal communication, the built environment, photography, film, and television as culturally conditioned symbolic systems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

MLA 5190. Topics in Modernism. 3 Credit Hours.
Modernism was not a single movement but a multiplicity of cultural changes involving issues of perception, identity, memory, culture, and the nature of modernity itself. This course explores the terrain of culture and the arts (e.g., film, art, literature, Cubism, Expressionism, Surrealism) within the context of historical and technological change.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.
MLA 5210. Topics in Political Culture. 3 Credit Hours.
Public policy has often emerged out of a combination of legal struggle, political negotiation, private wealth, and public interest groups. This course focuses on American political culture, including such topics as civil rights, the conservative right vs. the left, government by plutocracy, national health care, the rights of the poor, and the fate of the middle class.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MLA 5220. Topics in Urban Studies. 3 Credit Hours.
This course explores the way cities have been formed and continue to be formed in relation to parks and neighborhoods, suburbs, and regions. The emphasis is on the way urban culture is shaped through the design of space, architectural form, and through urban planning.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MLA 5230. Topics in International Studies. 3 Credit Hours.
After World War II, with the independence of formerly colonial nations, a new world of independent nation states evolved, torn between the pressures of ethnic culture, global communications, and international economies. This course explores issues of cultural identity and cultural conflict, as they surface in literature and film, in global tourism, in efforts at global cooperation and global competition.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MLA 5250. Topics in Science, Technology, and Culture. 3 Credit Hours.
The impact of science and technology on culture has been pervasive and can be measured in terms of social life and habits, the environment, the arts, and politics. Emphasizing the last hundred years, this course examines some of the more significant changes in science and technology, from the automobile to computers, and explores the ways the individual and society have been redefined.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MLA 8021. Foundations of Modern Thought I. 3 Credit Hours.
This course explores the foundations of modern thought by examining the essential elements of the intellectual and literary traditions of world cultures, from ancient times to the Enlightenment. Representative readings will be drawn from literature, philosophy, and psychology, from Western traditions (e.g., Greeks, Hebrews, and Romans) as well as non-Western. Sample topics include: The Old Testament world view; the classical ideal of the hero; the Platonic ideal; the medieval religious synthesis; the Renaissance and statecraft; Cartesian method; the morality of the Enlightenment; the beginnings of alienation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MLA 8031. Foundations of Modern Thought II. 3 Credit Hours.
This course examines the foundations of contemporary thought, moving from the Romantic and Victorian world views to Modernism and Postmodernism. Students explore the new paradigms which have come about from breakthroughs in science and social thought, and from the traumatic events of the twentieth century. Readings are drawn from literature, history, science, and philosophy.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MLA 8041. Foundations of American Culture. 3 Credit Hours.
This course looks at the foundations and traditions of American thought and culture, from the Protestant foundation to America's place in global culture and cybertulture. An effort is made to connect intellectual traditions with historical events, including the American Revolution, the rise of feminism and abolitionism in the nineteenth century, and the emerging industrial and technological world of the twentieth century. American traditions are placed in the contexts of European thought and the broader model of globalization.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
MLA 8300. Special Topics - MLA. 3 Credit Hours.
Content varies by semester. May be repeated for credit.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

MLA 9995. Master’s Project. 1 to 3 Credit Hour.
This course is to be used for MLA qualifying paper research.

**Field of Study Restrictions:** Must be enrolled in one of the following Fields of study: Liberal Arts.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**Pre-requisites:**
(MLA 8011|May not be taken concurrently) 
AND (MLA 8021 to 9082| Required Courses:3|May not be taken concurrently)

# Math Education (Elementary) (MAEE)

## Courses

MAEE 5462. Tchg Math to Child N-6. 3 Credit Hours.
The purpose of this course is to prepare prospective and beginning teachers to teach reform-based mathematics in early childhood and elementary school settings as suggested in the Principles and Standards for School Mathematics (NCTM, 2000). The intent of the course is to enable prospective and beginning teachers to enhance their mathematical content knowledge and develop pedagogical content knowledge and teacher efficacy. The course will also focus on equity pedagogies (i.e. culturally responsive and culturally specific pedagogies) and teaching for social justice. The course will also stress mathematical thinking and learning by observing video clips of actual classrooms and individual student assessments as well as microteaching of your peers. We explore teaching mathematics in both conceptual and procedural ways with models, manipulatives and advanced technologies to appropriate for teaching mathematics to all children, including underrepresented minority students, linguistically diverse students, and students with learning disabilities.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

MAEE 5464. C&I in Math Educ N:6. 1 to 6 Credit Hour.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

MAEE 5469. Spec Proj Math Ed. 1 to 6 Credit Hour.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

MAEE 5501. Math/Sci Pedagogy Tchrs. 3 Credit Hours.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

# Math Education (Secondary) (MAES)

## Courses

MAES 5469. Spec Proj Math Ed. 1 to 6 Credit Hour.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.
MAES 5471. Teaching of Mathematics. 3 Credit Hours.
Methods and models of teaching and assessing mathematics in secondary schools. Key ideas include rigorous instruction for all students, teaching for understanding, eliciting and extending students' mathematical thinking, selecting and using high-quality classroom tasks, and developing effective classroom discourse. Focus on teaching and learning the important secondary content areas of algebra and data analysis, including mathematics modeling and the use of technology in learning these subjects. Problem solving, communication, and mathematical representations and connections are emphasized.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Mathematics (MATH)

Courses
MATH 5000. Special Topics in Math. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MATH 5001. Linear Algebra. 3 Credit Hours.
Vector spaces and subspaces over the real and complex numbers; linear independence and bases; linear mappings; dual and quotient spaces; fields and general vector spaces; polynomials, ideals and factorization of polynomials; determinant; Jordan canonical form. Fundamentals of multilinear algebra.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MATH 5041. Concepts of Analysis I. 3 Credit Hours.
Advanced calculus in one and several real variables. Topics include topology of metric spaces, continuity, sequences and series of numbers and functions, convergence, including uniform convergence. Ascoli and Stone-Weierstrass theorems. Integration and Fourier series. Inverse and implicit function theorems, differential forms, Stokes theorem.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MATH 5042. Concepts of Analysis II. 3 Credit Hours.
Advanced calculus in one and several real variables. Topics include topology of metric spaces, continuity, sequences and series of numbers and functions, convergence, including uniform convergence. Ascoli and Stone-Weierstrass theorems. Integration and Fourier series. Inverse and implicit function theorems, differential forms, Stokes theorem.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MATH 5041|Minimum Grade of B-|May not be taken concurrently.

MATH 5043. Introduction to Numerical Analysis. 3 Credit Hours.
Roots of nonlinear equations, errors, their source and propagation, linear systems, approximation and interpolation of functions, numerical integration.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MATH 5044. Introduction to Numerical Analysis II. 3 Credit Hours.
This course will cover the following topics: Analysis and numerical solutions of ordinary differential equations, Runge-Kutta, multistep, and Taylor series methods; deferred correction; convergence and stability; stiff problems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
MATH 5045. Ordinary Differential Equations. 3 Credit Hours.
Existence and uniqueness theorems, continuous and smooth dependence on parameters, linear differential equations, asymptotic behavior of solutions, isolated singularities, nonlinear equations, Sturm-Liouville problems, numerical solution of ODEs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MATH 5061. Fundamentals of Computer Programming for Scientists and Engineers. 4 Credit Hours.
Scientists and engineers use computers for a multitude of purposes. Even with ready-to-use applications, some amount of computer programming is commonly required to adapt to changing technology while attaining the rigorous standards of each specific discipline. This course focuses on fundamental computer programming constructs, introducing the languages Python, C++ and Fortran. Through lectures and intensive exercises students will learn to implement fundamental mathematical constructs and solve basic programming problems relevant to scientific applications. The course briefly reviews also the Linux environment, its software development tools and language interoperability. For each programming language, the course focuses on constructs and syntax designed for performance and numerical accuracy, in connection with methods from applied science, mathematics and engineering. The students taking the course are expected to have sufficient mathematical maturity, as evidenced, for example, by having completed an undergraduate Calculus sequence. The majority of the grade is determined by a mid-term and a final exam, both including a combination of questionnaires and supervised programming assignments.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MATH 5063. Introduction to High-Performance Computing Technology for Scientists. 4 Credit Hours.
This course is an introduction to the technology used in Linux clusters and supercomputers dedicated to calculations in applied science and engineering. The basic architecture of modern computers (processing units, memory, storage, operating system) is briefly reviewed, emphasizing the role and performance impact of each element in numerical computation. The core of the course focuses on setup and management of computer hardware specialized for scientific computing, and on its impact on commonly used strategies and methods for scientific computation. The material is organized in a combination of lectures and hands-on exercises, using computer hardware hosted at local facilities as well as virtualized resources. The majority of the grade is determined by a mid-term and a final exam, both including a combination of questionnaires and identification of the most efficient solution to common numerical problems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MATH 5061|Minimum Grade of B-|May be taken concurrently.

MATH 8001. Candidates Seminar. 1 to 3 Credit Hour.
Challenging problems from many different areas of mathematics are posed and discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MATH 8002. Candidates Seminar. 1 to 3 Credit Hour.
Challenging problems from many different areas of mathematics are posed and discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MATH 8003. Number Theory. 3 Credit Hours.
This is an introduction to the ideas and techniques of number theory, elementary, analytic, and algebraic. The object of the course is to demonstrate how real and complex analysis and modern algebra can be applied to classical problems in number theory. References: H. Rademacher, “Lectures on elementary number theory”; H. Davenport, “Multiplicative number theory”; Rosen and Ireland, “A classical introduction to algebraic number theory.”

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
MATH 8004. Number Theory. 3 Credit Hours.
This is an introduction to the ideas and techniques of number theory, elementary, analytic, and algebraic. The object of the course is to demonstrate how real and complex analysis and modern algebra can be applied to classical problems in number theory. References: H. Rademacher, “Lectures on elementary number theory”; H. Davenport, “Multiplicative number theory”; Rosen and Ireland, “A classical introduction to algebraic number theory.”

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MATH 8007. Introduction to Methods in Applied Mathematics I. 3 Credit Hours.
This is the first semester of a two-semester general overview of mathematical concepts and tools for applied mathematics. Topics to be covered include modeling and derivation of equations of continuum mechanics; solution methods for linear PDE in special domains, such as Fourier and Laplace transforms as well as Green’s functions; calculus of variations and control theory.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MATH 8008. Introduction to Methods in Applied Mathematics II. 3 Credit Hours.
This is the second semester of a two-semester general overview of mathematical concepts and tools for applied mathematics. Topics to be covered include dynamical systems and bifurcation theory; asymptotic analysis and perturbation theory; systems of hyperbolic conservation laws. Material is largely independent of MATH 8007.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MATH 8011. Abstract Algebra I. 3 Credit Hours.
Groups, rings, modules, fields; Galois theory; linear algebra.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MATH 8012. Abstract Algebra II. 3 Credit Hours.
Groups, rings, modules, fields; Galois theory; linear algebra.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MATH 8011|Minimum Grade of B-|May not be taken concurrently.

MATH 8013. Numerical Linear Algebra I. 3 Credit Hours.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
MATH 8014. Numerical Linear Algebra II. 3 Credit Hours.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MATH 8013|Minimum Grade of B-|May not be taken concurrently.

MATH 8023. Numerical Differential Equations I. 3 Credit Hours.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MATHEMATICS 8024. Numerical Differential Equations II. 3 Credit Hours.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MATH 8023|Minimum Grade of B-|May not be taken concurrently.

MATH 8031. Probability Theory. 3 Credit Hours.
With a rigorous approach the course covers the axioms, random variables, expectation and variance. Limit theorems are developed through characteristic functions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MATH 8031|Minimum Grade of B-|May not be taken concurrently.

MATH 8032. Stochastic Processes. 3 Credit Hours.
Random sequences and functions; linear theory; limit theorems; Markov processes; branching processes; queuing processes.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MATH 8031|Minimum Grade of B-|May not be taken concurrently.

MATH 8041. Real Analysis I. 3 Credit Hours.
The syllabus coincides with the syllabus for the Ph.D. Examination in Real Analysis.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
MATH 8042. Real Analysis II. 3 Credit Hours.
The syllabus coincides with the syllabus for the Ph.D. Examination in Real Analysis.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MATH 8041|Minimum Grade of B-|May not be taken concurrently.

MATH 8051. Functions of a Complex Variable I. 3 Credit Hours.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MATH 8051|Minimum Grade of B-|May not be taken concurrently.

MATH 8052. Functions of a Complex Variable II. 3 Credit Hours.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MATH 8051|Minimum Grade of B-|May not be taken concurrently.

MATH 8061. Differential Geometry and Topology I. 3 Credit Hours.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MATH 8061|Minimum Grade of B-|May not be taken concurrently.

MATH 8062. Differential Geometry and Topology II. 3 Credit Hours.
Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MATH 8061|Minimum Grade of B-|May not be taken concurrently.

MATH 8107. Mathematical Modeling for Science, Engineering, and Industry. 3 Credit Hours.
In this course, students work in groups on projects that arise in industry, engineering, or in other disciplines of science. In addition to being advised by the course instructors, in all projects an external partner is present. The problems are formulated in non-mathematical language, and the final results need to be formulated in a language accessible to the external partner. This means in particular that the mathematical and computational methods must be selected or created by the students themselves. Students disseminate their progress and achievements in weekly presentations, a mid-term and a final project report, and a final presentation. Group work with and without the instructors’ involvement is a crucial component in this course.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics, Engineering: Engineering.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MATH 8007|Minimum Grade of B-|May not be taken concurrently)
AND (MATH 8008|Minimum Grade of B-|May not be taken concurrently)
MATH 8141. Partial Differential Equations I. 3 Credit Hours.
The classical theory of partial differential equations. Elliptic, parabolic, and hyperbolic operations.

**Department Restrictions:** Must be enrolled in one of the following Departments: CST:Mathematics.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

MATH 8142. Partial Differential Equations II. 3 Credit Hours.
The classical theory of partial differential equations. Elliptic, parabolic, and hyperbolic operations.

**Department Restrictions:** Must be enrolled in one of the following Departments: CST:Mathematics.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**
MATH 8141|Minimum Grade of B-|May not be taken concurrently.

MATH 8161. Topology. 3 Credit Hours.
Point set topology through the Urysohn Metrization Theorem; fundamental group and covering spaces. Differential forms; the DeRham groups.

**Department Restrictions:** Must be enrolled in one of the following Departments: CST:Mathematics.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**
MATH 5041|Minimum Grade of B-|May not be taken concurrently.

MATH 8200. Topics in Applied Mathematics. 3 Credit Hours.
Variable topics, such as control theory and transform theory, will be treated.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

MATH 8210. Topics in Applied Mathematics II. 3 Credit Hours.
Variable topics, such as control theory and transform theory, will be treated.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

MATH 8700. Topics Computer Program. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

MATH 8710. Topics Computer Program. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

MATH 8985. Teaching in Higher Education. 1 to 3 Credit Hour.
This course is required for any student seeking Temple's Teaching in Higher Education Certificate. The course focuses on the research on learning theory and the best teaching practices, with the aim of preparing students for effective higher education teaching. All educational topics will be considered through the lens of teaching mathematics and quantitative thinking.

**Department Restrictions:** Must be enrolled in one of the following Departments: CST:Mathematics.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for a total of 3 credit.
MATH 9000. Topics in Number Theory I. 3 Credit Hours.
Analytic and algebraic number theory. Classical results and methods and special topics such as partition theory, asymptotic, Zeta functions, transcendence, modular functions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MATH 9003. Modular Functions. 3 Credit Hours.
This course focuses upon the modular group and its subgroups, the corresponding fundamental region and their invariant functions. Included will be a discussion of the basic properties of modular forms and their construction by means of Eisenstein and Poincaré series and theta series. Other topics: the Hecke correspondence between modular forms and Dirichlet series with functional equations, the Peterson inner product, the Hecke's operators. Emphasis will be placed upon applications to number theory. References: M. Knopp, "Modular functions in analytic number theory"; J. Lehner, "A short course in automorphic forms"; B. Schoeneberg, "Elliptic modular forms."

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MATH 9004. Modular Functions. 3 Credit Hours.
This course focuses upon the modular group and its subgroups, the corresponding fundamental region and their invariant functions. Included will be a discussion of the basic properties of modular forms and their construction by means of Eisenstein and Poincaré series and theta series. Other topics: the Hecke correspondence between modular forms and Dirichlet series with functional equations, the Peterson inner product, the Hecke's operators. Emphasis will be placed upon applications to number theory. References: M. Knopp, "Modular functions in analytic number theory"; J. Lehner, "A short course in automorphic forms"; B. Schoeneberg, "Elliptic modular forms."

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MATH 9005. Combinatorial Mathematics. 3 Credit Hours.
Topics include: Enumeration, Trees, Graphs, Codes, Matchings, Designs, Chromatic Polynomials, Coloring, Networks.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MATH 9010. Topics in Number Theory II. 3 Credit Hours.
Analytic and algebraic number theory. Classical results and methods and special topics such as partition theory, asymptotic, Zeta functions, transcendence, modular functions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MATH 9011. Homological Algebra. 3 Credit Hours.
Students will learn fundamental notions of homological algebra such as chain complexes, Abelian categories, derived functors, and spectral sequences. A portion of this course is also devoted to rudiments of category theory. Students will learn how to apply constructions of homological algebra and category theory to questions from abstract algebra, topology and deformation theory.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: (MATH 8011|Minimum Grade of B-|May not be taken concurrently) AND (MATH 8012|Minimum Grade of B-|May not be taken concurrently)
MATH 9012. Representation Theory I. 3 Credit Hours.
This is the first semester of a two-semester course on the principal methods and results of algebraic representation theory. The course will start with an introduction to the fundamental notions, tools and general results of representation theory in the setting of associative algebras. This will be followed by a thorough coverage of the classical representation theory of finite groups over an algebraically closed field of characteristic zero. If time permits, then the semester will conclude with a brief introductory discussion of the representation theory of the general linear group.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
Pre-requisites:
(MATH 8011|Minimum Grade of B-|May not be taken concurrently)
AND (MATH 8012|Minimum Grade of B-|May not be taken concurrently)

MATH 9013. Representation Theory II. 3 Credit Hours.
This is the second part of a two-semester course sequence on the principal methods and results of algebraic representation theory. The main focus will be on representations of finite-dimensional Lie algebras, with particular emphasis on the case of semisimple Lie algebras. Time permitting, the course will conclude with an introduction to the representation theory of Hopf algebras.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
Pre-requisites:
MATH 9012|Minimum Grade of B-|May not be taken concurrently.

MATH 9014. Commutative Algebra and Algebraic Geometry I. 3 Credit Hours.
This is the first semester of a two-semester course on the fundamental concepts of commutative algebra and classical as well as modern algebraic geometry. Topics for the first semester include: ideals of commutative rings, modules, Noetherian and Artinian rings, Noether normalization, Hilbert's Nullstellensatz, rings of fractions, primary decomposition, discrete valuation rings and the rudiments of dimension theory.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
Pre-requisites:
(MATH 8011|Minimum Grade of B-|May not be taken concurrently)
AND (MATH 8012|Minimum Grade of B-|May not be taken concurrently)

MATH 9015. Commutative Algebra and Algebraic Geometry II. 3 Credit Hours.
This is the second semester of a two-semester course on the fundamental concepts of commutative algebra and classical as well as modern algebraic geometry. Topics for the second semester include: affine and projective varieties, morphisms of algebraic varieties, birational equivalence, and basic intersection theory. In the second semester, students will also learn about schemes, morphisms of schemes, coherent sheaves, and divisors.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
Pre-requisites:
MATH 9014|Minimum Grade of B-|May not be taken concurrently.
MATH 9021. Riemannian Geometry. 3 Credit Hours.
The main goal of this one-semester course is to provide a solid introduction to the two central concepts of Riemannian Geometry, namely, geodesics and curvature and their relationship. After taking this course, students will have an intimate acquaintance with the tools and concepts that are needed for pursuing research in Riemannian Geometry or applying its ideas to other fields of mathematics such as analysis, topology, and algebraic geometry. The topics covered include Riemannian metrics, Riemannian connections, geodesics, curvature (sectional, Ricci, and scalar curvatures), the Jacobi equation, the second fundamental form, and global results such as the Gauss-Bonnet Theorem, the theorems of Hopf-Rinow and Hadamard, variations of energy, the theorems of Bonnet-Myers and of Synge-Weinstein, and the Rauch comparison theorem.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MATH 8061|Minimum Grade of B-|May not be taken concurrently)
AND (MATH 8062|Minimum Grade of B-|May be taken concurrently)

MATH 9023. Knot Theory and Low-Dimensional Topology I. 3 Credit Hours.
This is the first semester of a year-long course surveying the modern theory of knots and providing an introduction to some fundamental results and techniques of low-dimensional topology. The course will start at the very beginning of knot theory; it will then proceed to several classical knot invariants (Alexander, Jones, HOMFLY polynomials). The first semester will also touch on braid groups and mapping class groups, and use these groups to show that every (closed, orientable) 3-manifold can be constructed via knots.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MATH 8061|Minimum Grade of B-|May not be taken concurrently)
AND (MATH 8062|Minimum Grade of B-|May not be taken concurrently)

MATH 9024. Knot Theory and Low-Dimensional Topology II. 3 Credit Hours.
This is the second semester of a year-long course surveying the modern theory of knots and providing an introduction to some fundamental results and techniques of low-dimensional topology. This course will continue the development of knot invariants begun during the first semester, in particular exploring the connection between knots and braid groups. It will also use Dehn surgery techniques to extend construct quantum invariants of closed 3-dimensional manifolds. Finally, the course will survey several results in 4-dimensional topology and their connection to knot theory.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MATH 9023|Minimum Grade of B-|May not be taken concurrently.

MATH 9031. Advanced Probability Theory. 3 Credit Hours.
This course is a continuation of MATH 8031 and is based on measure theory. It covers advanced topics in probability theory: martingales, Brownian motion, Markov chains, continuous time Markov processes, ergodic theory and their applications.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
MATH 9041. Functional Analysis I. 3 Credit Hours.
Topics covered include Banach and Hilbert spaces, Banach-Steinhaus theorem, Hahn-Banach theorem, Stone-Weierstrass theorem, Operator theory, self-adjointness, compactness. Also covered are Sobolev spaces, embedding theorems, Schwartz distributions, Paley-Wiener theory. If time permits, Banach and C algebras will be covered.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MATH 8041|Minimum Grade of B-|May not be taken concurrently)
AND (MATH 8042|Minimum Grade of B-|May not be taken concurrently)
AND (MATH 8161|Minimum Grade of B-|May not be taken concurrently)

MATH 9042. Functional Analysis II. 3 Credit Hours.
Topics covered include: Banach and Hilbert spaces, Banach-Steinhaus theorem, Hahn-Banach theorem, Stone-Weierstrass theorem, Operator theory, self-adjointness, compactness. Also covered are Sobolev spaces, embedding theorems, Schwartz distributions, Paley-Wiener theory. If time permits, Banach and C algebras will be covered.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MATH 9041|Minimum Grade of B-|May not be taken concurrently.

MATH 9043. Calculus of Variations. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MATH 9044. Harmonic Analysis. 3 Credit Hours.
A year long course to explore the real-variable techniques developed in Harmonic Analysis to study smoothness properties of functions and the behavior of certain spaces under the action of some operators. These techniques are also essential in many applications to PDE's and several complex variables. Offered every two years.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MATH 9051. Several Complex Variables I. 3 Credit Hours.
Holomorphic functions of several complex variables, domains of holomorphy, pseudoconvexity, analytic varieties, CR manifolds.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MATH 8051|Minimum Grade of B-|May not be taken concurrently)
AND (MATH 8052|Minimum Grade of B-|May not be taken concurrently)
MATH 9052. Several Complex Variables II. 3 Credit Hours.
Holomorphic functions of several complex variables, domains of holomorphy, pseudoconvexity, analytic varieties, CR manifolds.

Department Restrictions: Must be enrolled in one of the following Departments: CST:Mathematics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MATH 9051|Minimum Grade of B-|May not be taken concurrently.

MATH 9053. Harmonic Analysis. 3 Credit Hours.
A year long course to explore the real-variable techniques developed in Harmonic Analysis to study smoothness properties of functions and the behavior of certain spaces under the action of some operators. These techniques are also essential in many applications to PDE's and several complex variables. Offered every two years.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MATH 9061. Lie Groups. 3 Credit Hours.
This course develops Lie theory from the ground up. Starting with basic definitions of Lie group-manifolds and Lie algebras, the course develops structure theory, analytic and algebraic aspects, and representation theory. Interactions with other fields, e.g., differential equations and geometry are also discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MATH 9062. Lie Groups. 3 Credit Hours.
This course develops Lie theory from the ground up. Starting with basic definitions of Lie group-manifolds and Lie algebras, the course develops structure theory, analytic and algebraic aspects, and representation theory. Interactions with other fields, e.g., differential equations and geometry are also discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MATH 9063. Riemann Surfaces. 3 Credit Hours.
Introduction to differential geometry, Riemannian manifolds and Hodge theory; classification of complex structures of oriented two-manifolds as conformal classes of Riemannian metrics; covering spaces and the uniformization theorem; the moduli space of the torus; the Riemann-Roch theorem for compact Riemann surfaces; interpretation of the Riemann-Roch theorem as the index of an elliptic operator.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MATH 9064. Riemann Surfaces. 3 Credit Hours.
Moduli and Teichmueller spaces for compact Riemann surfaces; introduction to modular forms; embedding of compact Riemann surfaces in complex projective spaces. Branched coverings and maps onto the Riemann sphere.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MATH 9071. Differential Topology. 3 Credit Hours.
Moduli and Teichmueller spaces for compact Riemann surfaces; introduction to modular forms; embedding of compact Riemann surfaces in complex projective spaces. Branched coverings and maps onto the Riemann sphere.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
MATH 9072. Differential Topology. 3 Credit Hours.
Topics and emphasis may vary depending on instructor and may include surgery, handlebodies, cobordism; topological manifolds with smooth structure, manifolds with more than one smooth structure; topology of vector bundles, characteristic classes, index theorem.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MATH 9073. Geometric Group Theory. 3 Credit Hours.
This semester-long course will survey the rapidly expanding field of geometric group theory, focusing on the role played by negative curvature. We will begin with classical combinatorial techniques used to construct and study infinite discrete groups. After introducing basic concepts in coarse geometry, we will turn our attention to Gromov's notion of hyperbolic groups. In addition to studying geometric, algebraic, and algorithmic properties of these groups, we will keep an eye towards several generalizations of hyperbolicity that have recently played a large role in understanding many geometrically significant groups. As examples, we will also touch on the study of mapping class groups, outer automorphism groups of free groups, and cubical groups.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MATH 8061|Minimum Grade of B-|May not be taken concurrently)
AND (MATH 8062|Minimum Grade of B-|May not be taken concurrently)

MATH 9082. Independent Study. 1 to 3 Credit Hour.
Independent research supervised by a Mathematics faculty member.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MATH 9083. Independent Study. 1 to 3 Credit Hour.
Independent research supervised by a Mathematics faculty member.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MATH 9100. Topics in Algebra. 3 Credit Hours.
Variable topics in theory of commutative and non-commutative rings, groups, algebraic number theory, algebraic geometry.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MATH 9110. Topics in Algebra. 3 Credit Hours.
Variable topics in theory of commutative and non-commutative rings, groups, algebraic number theory, algebraic geometry.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MATH 9120. Seminar in Algebra. 3 Credit Hours.
The seminar aims to lead participating students up to the frontier of current research in algebra. The typical formats are single lectures or short series of lectures by students or the instructor on various topics in algebra, including noncommutative algebra, representation theory, group theory, operads and connections to mathematical physics. Occasionally, slightly longer mini-courses are presented in the framework of the seminar or an entire semester is devoted to a single topic of particular interest.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
MATH 9200. Topics in Numerical Analysis. 3 Credit Hours.
These courses cover some basic, as well as advanced topics in numerical analysis. The topics can be changed from time to time. The usual topics include: scientific computing, numerical methods for differential equations, computational fluid dynamics, Monte Carlo simulation, Optimization, Sparse matrices, Fast Fourier transform and applications, etc.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MATH 9210. Topics in Numerical Analysis. 3 Credit Hours.
These courses cover some basic, as well as advanced topics in numerical analysis. The topics can be changed from time to time. The usual topics include: scientific computing, numerical methods for differential equations, computational fluid dynamics, Monte Carlo simulation, Optimization, Sparse matrices, Fast Fourier transform and applications, etc.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MATH 9300. Seminar in Probability. 3 Credit Hours.
Research topics related to probability theory are presented in the seminar. Topics vary depending on the interests of the students and the instructor. Current topics include stochastic calculus with applications in mathematical finance, statistical mechanics, interacting particle systems, percolation, and probability models in mathematical physics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MATH 9310. Seminar in Probability. 3 Credit Hours.
Research topics related to probability theory are presented in the seminar. Topics vary depending on the interests of the students and the instructor. Current topics include stochastic calculus with applications in mathematical finance, statistical mechanics, interacting particle systems, percolation, and probability models in mathematical physics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MATH 9400. Topics in Analysis. 3 Credit Hours.
Variable content course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MATH 9410. Topics in Functional Analysis. 3 Credit Hours.
This is a year-long sequence. The content varies from time to time depending on the interests of the students. Typical topics include some of the following: pseudodifferential operators, Fourier integral operators, singular integral operators, applications to partial differential equations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MATH 9420. Topics in Differential Equations II. 3 Credit Hours.
This is a year-long sequence. Topics covered may include the theory of elliptic partial differential equations in divergence form and non-divergence form, and nonlinear PDEs. These courses may also focus on pseudodifferential operators and Fourier integral operators.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
MATH 9991. Master's Research Projects. 1 to 6 Credit Hour.
Short-term, limited research project or laboratory project in the field. This course is not the capstone project course, nor can it be used for thesis based research. The course is for master's students only, including PSM, MA or MS. This class will not confer full-time program status unless nine credits are taken.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Master of Science, Prof Science Masters.

Repeatability: This course may be repeated for additional credit.

MATH 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
This course is required for students who are preparing for the preliminary or candidacy examination. Students should enroll after coursework is completed or when preparing for the candidacy exam until the time that the preliminary or candidacy examination is completed. This course will confer full-time status at the minimum credit hour registration limit of one credit. All students must complete a minimum of one credit of this course. Students must complete a total of 6 credit hours of 9994, 9998 and 9999.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MATH 9995. Capstone Project. 1 to 6 Credit Hour.
Capstone project for master's students including students in PSM, MA or MS. This class will provide full-time status. Students in PSM programs need to register for at least one credit of this course to fulfill program requirements. Additional credits may be required for specific programs. This course will confer full-time status at the minimum credit hour registration limit of one credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Master of Science, Prof Science Masters.

Repeatability: This course may be repeated for additional credit.

MATH 9996. Master's Thesis Research. 1 to 6 Credit Hour.
Course for master's thesis research. Only intended for students in thesis bearing master's programs. A minimum of one credit is required. This course will confer full-time status at the minimum credit hour registration limit of one credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MATH 9998. Pre-Dissertation Research / Elevation to Candidacy. 1 to 6 Credit Hour.
This course is intended for students who are performing research prior to candidacy. Students can register for this course after required courses are completed. This course will confer full-time status at the minimum credit hour registration limit of one credit. Students must be registered for this course during the semester that they are to be elevated to candidacy examination. Students must complete a total of 6 credit hours of 9994, 9998 and 9999.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MATH 9999. Dissertation Research. 1 to 6 Credit Hour.
The course is for Ph.D. students who have been elevated to candidacy. During the course of their candidacy students must complete a minimum of two credits of dissertation research. This course will confer full-time status at the minimum credit hour registration limit of one credit. Students must complete a total of 6 credit hours of 9994, 9998 and 9999.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.

Mechanical Engineering (MEE)

Courses

MEE 5110. Special Topics. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
MEE 5117. Finite Element Analysis. 3 Credit Hours.
Concepts and techniques of finite element and finite difference methods; mesh generation techniques; computer graphics presentation methods. Application to solids, liquids, and gases in the areas of stress, strain, deflection elasticity, heat transfer, fluid flow, and combustion.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MEE 5201. Thermodynamics of Materials. 3 Credit Hours.
An introductory master's level course that explores materials from a thermodynamic perspective: Includes the laws of thermodynamics, free energy, chemical potential, stability, etc. A detailed analysis of phase diagrams is presented in the second half of the course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MEE 5203. Advanced Materials Science. 3 Credit Hours.
Chemical bonding, crystallography, defects and their effects on material properties, nucleation, growth, and microstructure development.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MEE 5205. Microscopy and Microanalysis of Materials. 3 Credit Hours.
This course will cover various Microscopy and Microanalysis techniques which are widely used in research labs and in industries to characterize micro and nano structure and chemical composition of solid matter. Among them are visual light, scanning probe and electron beam microscopy and associated spectroscopy. The primary focus will be on fundamental aspects and experimental methods of Scanning Electron Microscopy (SEM) and associated spectroscopy. The SEM facility will be used for individual student projects. Particular attention will be given to the selection criteria used for choosing the appropriate technique for materials characterization.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MEE 5312. Mechanics of Composite Materials. 3 Credit Hours.
Introduction to the behavior of composite materials and their use in engineering structures: behavior and properties of the constituent fibers and matrices, micromechanical predictions of composite properties, anisotropic elasticity, behavior of composite laminae, classical lamination theory; fracture mechanisms, failure theories; behavior of composite plates and beams.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MEE 5411. Introduction to Mobile Robotics. 3 Credit Hours.
How can one create mobile robots that operate autonomously in cluttered indoor and outdoor environments? How do robots determine their state and properties from noisy sensor data to accomplish navigation and manipulation tasks? The Introduction to Mobile Robotics course will address motion planning, control, sensing and estimation for mobile robots. The goal of the class is to train students to develop real-time planning and control software modules for robotic systems. Students taking this course are expected to be familiar with differential equations, linear algebra, and multi-variable calculus. Experience with programming in Matlab or Octave is recommended (and Matlab will be used in the course).

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MEE 5423. Engineering Acoustics. 3 Credit Hours.
This graduate level course introduces the fundamentals of engineering acoustics and will help students establish a deep understanding of the physics of acoustic-wave propagation. Students will also be able to acquire knowledge on computational tools used to study acoustic systems, and explore emerging areas in acoustics including acoustic metamaterial and bio-inspired acoustic sensors.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ENGR 5012|Minimum Grade of C|May be taken concurrently.
MEE 5511. Thermodynamic Properties. 3 Credit Hours.
Review of quantum mechanics and introduction to statistical mechanics. Statistical thermodynamics and various models of matter. Accuracy and trends of the predicted properties of various materials.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MEE 5512. Compressible Fluid Dynamics. 3 Credit Hours.
This course introduces students to the subject of high speed gas dynamics. Compressible flows exhibit fundamentally different behavior from those in low speed, constant density fluids. Such flows are found in aerodynamics, combustors, turbines, jets, gas pipelines, and wind tunnel facilities. Students study phenomena associated with supersonic flows, including normal and oblique shocks, expansion fans, and compressible flows with friction and/or heat transfer. An introduction to high temperature and rarified gas dynamics is also included.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MEE 5575. Renewable and Alternative Energy. 3 Credit Hours.
The objective of the course is to establish the theoretical basis for the description of regular and chaotic dynamic systems. Students learn to understand the basic ideas of dynamic systems and the nature of chaotic behavior so they can apply these ideas to particular systems. They also learn how to choose the appropriate modeling techniques and hypothesis to establish a mathematical model of a qualitatively described phenomenon. Discussed applications include examples from fluid mechanics, physics, and biology.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MEE 5577. Power Generation and Storage Technologies. 3 Credit Hours.
This course will give an overview of electric power generation technologies including coal, gas, and nuclear power plants, as well as some emerging technologies such as photovoltaic. This course will also discuss technologies used in power transmission and distribution such as overhead power line conductors. Power storage technologies will also be introduced including compressed air, flywheel, hydrogen, and batteries.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MEE 5731. Cardiovascular Fluid Dynamics. 3 Credit Hours.
Mechanics of blood circulation, fluid mechanics of the heart, blood flow in arteries, unsteady flow in veins, current concepts in circulatory assist devices, biofluidics, and other selected topics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MEE 5732. Tissue Biomechanics. 3 Credit Hours.
Tissue Biomechanics course is an introductory course about the mechanical properties of living tissues. The emphasis of the course is on the meaning of constitutive models for bio-solids and bio-fluids. Topics include a review of elastic, viscous, and viscoelastic constitutive models; biovisoelastic solids; mechanical properties of blood vessels; mechanics of skeletal and heart muscles.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MEE 5733. Viscoelasticity. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MEE 8110. Special Topics. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
MEE 8315. Fracture Mechanics. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MEE 9182. Independent Study I. 3 Credit Hours.
Special study in a particular aspect of engineering under the direct supervision of a graduate faculty member. May be taken once by MS/MSE students and once by Ph.D. students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MEE 9282. Independent Study II. 3 Credit Hours.
Special study in a particular aspect of engineering under the direct supervision of a graduate faculty member. May be taken once by Ph.D. students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MEE 9991. Directed Research. 1 to 6 Credit Hour.
Under the guidance of a faculty member, the student will conduct independent research on a selected topic in engineering.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MEE 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
This course is intended for Ph.D. students who have completed their coursework but who have not yet passed both the Ph.D. Preliminary Examination.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MEE 9995. Project. 1 to 3 Credit Hour.
A project assigned with the approval of the Mechanical Engineering Graduate Committee and conducted under the supervision of a graduate faculty advisor. An oral presentation in an open seminar and a written report are required to complete the independent project. Projects related to industrial applications are encouraged. For non-thesis students only.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MEE 9996. Thesis. 1 to 3 Credit Hour.
Master’s thesis. May be taken twice.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MEE 9998. Pre-Dissertation Research. 1 to 6 Credit Hour.
This course is intended for Ph.D. students who have passed both the Preliminary and Qualifying Examinations but who have not been elevated to candidacy.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MEE 9999. Dissertation Research. 1 to 6 Credit Hour.
This course is intended only for those students who have achieved Ph.D. Candidacy status. A minimum of 6 semester hours is required for graduation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.

Media and Communication (MMC)
Courses

MMC 8985. Teaching in Higher Education: Communications. 3 Credit Hours.
A practical course in pedagogical methods. Students learn to plan course objectives, design syllabi, develop classroom techniques, establish assessment methods, and acquire polish as instructors of communications. Required course for all MM&C students. Requisite course to earn Temple's teaching in higher education certificate.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

MMC 9001. Communication Theory I. 3 Credit Hours.
Introduction to the field through a review of theoretical frameworks that have served as foundations for and shaped the study of mass communication. Required course for MM&C students in their first semester.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Mass Media and Communication.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

MMC 9002. Researching Communication I. 3 Credit Hours.
Introduction to the processes of communication research, common quantitative research methodologies, and concepts of statistical literacy. Required course for MM&C students in their first semester.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Mass Media and Communication.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

MMC 9003. Doctoral Colloquium. 1 Credit Hour.
Introduction to doctoral study, the field of communication, and the MM&C program. Fall semester: Current problems and opportunities in the field, discussions and presentations of current research, and presentations by senior scholars and students. Spring semester: writing workshop. Required of MM&C students in fall and spring of their first year.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Mass Media and Communication.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

MMC 9004. Teaching Communication. 3 Credit Hours.
A practical course in pedagogical methods, i.e., how to teach communication. Students learn to plan course objectives, design syllabi, develop classroom techniques, establish assessment methods, and acquire polish as instructors. Required course for all MM&C students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

MMC 9005. Colloquium II. 1 Credit Hour.
Following Colloquium I, this course is designed to deepen M&C doctoral students' understanding of the field of media and communication, to facilitate their progress through the PhD program, and to prepare them for success in their post-degree career. It is designed for students in their 2nd and 3rd years in the program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for a total of 2 credit.

Pre-requisites:
MMC 9003|Minimum Grade of B-|May not be taken concurrently.
MMC 9101. Communication Theory II. 3 Credit Hours.
Survey of the principal social sciences and humanities approaches that have led to the emergence of mass communication as a field in the modern academy. Includes review of the history of the study of the modern media as well as the perspectives guiding behavioral and social effects studies related to mass communication. Required course for MM&C students in their second semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MMC 9001|Minimum Grade of B-|May not be taken concurrently
AND MMC 9002|Minimum Grade of B-|May not be taken concurrently)

MMC 9102. Researching Communication II. 3 Credit Hours.
Introduction to qualitative research approaches applicable to the study of mass communication. Includes consideration of philosophical and conceptual approaches, epistemological and ethical concerns, and practical methodologies and tools. Required course for MM&C students in their second semester.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Mass Media and Communication.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MMC 9001|Minimum Grade of B-|May not be taken concurrently
AND MMC 9002|Minimum Grade of B-|May not be taken concurrently)

MMC 9202. Statistics II. 3 Credit Hours.
This course is designed to offer students a foundation in advanced statistics. This course builds directly off of MMC 9002. MMC 9002 focused on analyses of no more than four variables. A quick review of the literature will indicate that most statistical analyses undertaken by communication scientists involve the use of more than four variables simultaneously. This course will offer students a foundation in conducting analyses of this kind, with movement from data reduction procedures (e.g., PCA, EFA, CFA) to hybrid (i.e., combination of measurement and path estimates) structural equation modeling. A quick overview of meta-analysis is also provided.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MMC 9002|Minimum Grade of B-|May not be taken concurrently.

MMC 9203. Survey Design. 3 Credit Hours.
This course is constructed to offer students an up-to-date account of major issues associated with survey research design. The class begins with a summary of core measurement issues (e.g., concept explication, open- and closed-ended items). Attention is given to sampling frames and current difficulties with generating quality probability-based samples. Focus then turns to various types of survey designs (e.g., cross-sectional, rolling cross-sectional, panel), with summaries offered of their strengths and weaknesses. Special attention is then given to web-based survey designs given their prevalence in today's research environment. The course closes with a summary of approaching survey research from a Total Survey Error (TSE) perspective.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MMC 9002|Minimum Grade of B-|May not be taken concurrently)
AND (MMC 9202|Minimum Grade of B-|May not be taken concurrently)
MMC 9204. Experimental Design. 3 Credit Hours.
The course will offer the basics in traditional lab experimentation. A range of designs and factors will be focused on in the opening weeks. In addition, the course will cover such advanced topics as nested models and split-plot designs. In addition, the latter portion of the course will focus on field experimentation, a technique growing in popularity in the social and behavioral sciences given its ability to maximize internal and external validity. Finally, students will wrestle with and debate the relative strengths and weaknesses in traditional lab and field experimentation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MMC 9002|Minimum Grade of B-|May not be taken concurrently)
AND (MMC 9202|Minimum Grade of B-|May not be taken concurrently)

MMC 9205. Content Analysis. 3 Credit Hours.
This seminar-style course explores various approaches to analyzing the content and potential effects of documented communications—written materials (such as news articles, print ads, or transcripts of conversations), audio/visual forms (such as movies, TV programs, commercials, photographs, or videos of nonverbal behaviors), and interactive media (such as gaming and online applications). Content analysis is a systematic way of analyzing message content. In addition to “human coding” of topics such as TV violence, this course introduces you to a number of software options for computer text analysis, an evolving set of techniques for analyzing the written word in an era of unprecedented digital retrieval capability. The course’s emphasis is on the design and execution of actual content analysis studies—methods of producing meaningful data to answer critical questions about all types of messages.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MMC 9001|Minimum Grade of B-|May not be taken concurrently.

MMC 9206. Digital Qualitative Research Methods. 3 Credit Hours.
This course is designed to introduce students to the specific theoretical, methodological, ethical, and technical aspects of conducting qualitative research both on and in digital realms. It will draw on humanistic and social science approaches to studying the internet broadly, virtual worlds, social media, digital media and cultures, digital distribution technologies, etc. We will consider the challenges posed by digital technologies to traditional forms of textual analysis, ethnography, interviewing, and historical analysis. The course will cover studies of digital texts/objects, audiences, and producers, as well as consider how new technologies blur these traditional media and communication boundaries. In addition, we will look at how digital tools can aid analysis of qualitative data and offer new forms of research dissemination and publication.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MMC 9102|Minimum Grade of B-|May not be taken concurrently.

MMC 9207. Critical Textual Analysis. 3 Credit Hours.
The text is a foundational object in the study of media: it is what we consume as audiences, what our educations and professional routines are organized around producing, and the artifacts that carry the various meanings of culture that persist over time. The purpose of this course is to introduce you to the various methodological approaches that take texts as their central point of inquiry, and to develop your skill and expertise in deploying these methods, with the goal of producing your own conference-ready piece of research by the end of the semester. Textual approaches to the analysis of media have developed in diverse fields such as anthropology, history, literature, rhetoric and philosophy; mass communication has been one place of their intellectual convergence. Therefore, readings in this class will span Modernist through Post-Modernist movements focusing, not on progress from one approach to another, but on the spiral interplay of those movements, intellectual frameworks, and their uptakes in various disciplines. There is a deep convergence of theory and method here, and as such, a robust interest theory is needed in order to guide the interpretation of media texts.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
MMC 9208. Historical Methods for Media and Communication Research. 3 Credit Hours.
This is a graduate class in which students learn about and analyze the methods with which scholars investigate the media past. We will survey how researchers have approached a range of types of public communication, including but not only journalism, advertising, persuasive communication, photography, broadcasting, etc. Whenever possible, we will examine actual historical media artifacts, so that we can get a more tangible and audiovisual sense of what researchers encounter. We also will discuss how digitization of historical artifacts has transformed the nature and possibilities of historical research. We will pay special attention to both the digital and the material artifacts held in Temple University's Urban Archives. During most weeks, we'll be reading original works of media-history research, and our goal will be to assess what those scholars have done methodologically. This scholarship will include studies of historical media content, oral-history research done with media producers and audiences, and analyses of industry data and business records. We'll also explore logistical and ethical issues of the preservation, accessibility, and uses of historical evidence. Finally, we'll consider how media themselves are increasingly sources of public knowledge about history. This learning process will lead to the final assignment: a work of original historical research on a topic relevant to each student's individual interests.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: MMC 9102|Minimum Grade of B-|May not be taken concurrently.

MMC 9209. Media Ethnography. 3 Credit Hours.
This advanced topic course is designed to help students deepen their knowledge of the purpose, politics and practices of ethnography for the study of media and communication. Focusing on key methodological, epistemological and ethical questions, the course digs deep into how ethnography can be employed in different ways to study media institutions, on-line interpretive communities, and media reception and use in various cultural settings. While touching on the multiple and diverse influences in the theoretical development of ethnography, this course is organized primarily around the practical challenges and dilemmas of "doing" media ethnography, such as initiating a study, establishing ethnographic authority, the politics of representation, conducting fieldwork, observation versus participant observation, the practice of taking fieldnotes, the writing of media ethnographies, the difference between "thin" and "thick" description, and "traditional" versus "virtual" ethnographic inquiry.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: MMC 9102|Minimum Grade of B-|May not be taken concurrently.

MMC 9503. Advanced Quantitative Methods. 3 Credit Hours.
Study of parametric and non-parametric statistics and electronic data processing in the context of mass communication research problems, with an emphasis on multivariate analyses.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: MMC 9002|Minimum Grade of B-|May not be taken concurrently.

MMC 9505. Psychological Proc/Media. 3 Credit Hours.
Research and theory concerning the contemporary psychological significance of media. Topics include attention, memory, comprehension, emotional response, arousal, picture perception, unconscious processing, and person perception as they relate to traditional (radio, TV, print, film) and emerging (virtual reality, teleconferencing) media.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: MMC 9525. Communications Institutions. 3 Credit Hours.
Examination of the structure and function of the media in today's global society, including consideration of patterns of corporate ownership and control, political economy of media, democratic theory, globalization, governmental regulation of media, new technologies, and the nature of various media industries.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
MMC 9605. Visual Communication. 3 Credit Hours.
Critical examination of the ways photographs inform our everyday lives, focusing on photography’s relationship with “truth” and “reality.” Consideration of the uses of photographs for informative, interpretive and persuasive communication.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MMC 9612. Critical Analysis of Mass Media. 3 Credit Hours.
Examination and application of sociological, anthropological, literary studies, historical and cultural studies approaches to the analysis of media. The course surveys the major theoretical perspectives and explores content themes that have shaped contemporary media.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MMC 9625. Sem/Communication Abroad. 3 Credit Hours.
Participation in one of Temple University’s study abroad programs, including Temple/London, Temple/Japan, etc.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MMC 9647. Political Communication. 3 Credit Hours.
Introduction to how communication scholars study politics and the media. The course considers prevalent political communication theories and trends, the relationship between political institutions and the press in the US and in other countries, elections, debates, political campaigning and advertising, new media and politics, political socialization, education, politics and popular culture.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MMC 9700. Advanced Topic/MMC I. 3 Credit Hours.
Consideration of advanced and timely topics in Mass Media and Communication.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MMC 9707. Social Influence. 3 Credit Hours.
This course is concerned with understanding social influence, including the determinants of and models of attitude, belief, and behavior change, and norms, social networks, and interpersonal strategies. Students will become familiar with some current theoretical and empirical studies of social influence, including problems of measurement and research design, as well as some models of attitude and influence. Students should become aware of the tactics of social influence, their theoretical basis, and their effectiveness when that information is available. Current research being done by the instructor will be presented as relevant.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MMC 9709. Media Globalization. 3 Credit Hours.
This course examines the role of the media in the economic, political and cultural transformations that have come to be known as globalization. We will review and examine key concepts central to the understanding of globalization and explore the relationship between these concepts and the media. We will also discuss the historical and cultural debates that have shaped the development of global media studies and the theories that have emerged from these debates.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MMC 9101|Minimum Grade of B-|May not be taken concurrently.
MMC 9735. Emerging Media and Communication. 3 Credit Hours.
Examination of theory and research related to emerging media and technology. This course will examine theories related to the design and affordances of new media technologies, new forms of communication that are made possible by these technologies, and ways of understanding the economic, social, cultural, and political dimensions of new media technologies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MMC 9744. Public Information Campaign. 3 Credit Hours.
Exploration of techniques and issues used in information campaigns regarding health, energy conservation, environmental protection, and other topics, and the effects of campaigns on public knowledge and behavior. Students conduct an actual campaign on campus.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MMC 9748. Media and Social Memory. 3 Credit Hours.
Examination of the role of mass media in the creation and revision of collective (or "social") memory and the role of collective memory in the creation and revision of mass media.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MMC 9749. Social Media Analytics. 3 Credit Hours.
The seminar offers an introduction to theoretical and methodological procedures for social scientific research that relies on social media and online content as primary data. Students will learn how to conceptualize a social scientific research project that uses online media as a main source of data about human behaviors, attitudes, and communication processes. Students will also learn how to use specific tools (R, NodeXL, scrapers, QDA Miner, etc.) to download content from social media (Twitter, Facebook, Instagram, etc.), organize it as datasets, and analyze it using simple statistical, text mining, and qualitative techniques. A brief introduction to downloading data from secondary data sources will also be provided. Student proficiency in basic statistical analysis and a higher level of computer literacy are expected. The main goal of the graduate seminar is to help budding social scientists step over their disciplinary boundaries when collecting and analyzing data generated by social media. At the same time, the seminar learning activities will ensure that procedures and methods reflect sound and theoretically grounded research practices.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MMC 9882. Directed Projects/Comm. 1 to 8 Credit Hour.
Tutorial course supervised by a specific MM&C faculty member. Obtain required form from SCAT Graduate Office (344 Annenberg Hall).

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MMC 9883. Directed Readings/Comm. 1 to 4 Credit Hour.
Tutorial course supervised by a specific MM&C faculty member. Obtain required form from SCAT Graduate Office (344 Annenberg Hall).

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MMC 9946. Theory and Research Seminar (STARSS). 1 Credit Hour.
Students attend the SCT Theory and Research Seminar Series (STARSS) and write a short paper. May be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MMC 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
Students prepare to take preliminary examinations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
MMC 9998. Pre-Dissertation Research. 1 to 6 Credit Hour.
Students write their dissertation proposal.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MMC 9999. Dissertation Research. 1 to 6 Credit Hour.
Open only to Ph.D. candidates in MM&C. Students may register only after a dissertation proposal is officially approved. At least one credit must be taken each semester until the dissertation is successfully defended.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.

Media Studies and Production (MSP)

Courses

MSP 5011. Introduction to Communication Concepts. 3 Credit Hours.
Introduction to Broadcasting, Telecommunications, and Mass Media study through an examination of core concepts, theories, and areas of study.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MSP 5021. Media Institutions. 3 Credit Hours.
History and societal role of the mass media with an emphasis on the internal structure and workings of the mass media industries and their interaction with government and the public.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MSP 5011|Minimum Grade of B-|May not be taken concurrently
AND MSP 5114|Minimum Grade of B-|May not be taken concurrently)

MSP 5041. Communication Content and Behavior. 3 Credit Hours.
Study of parametric and nonparametric statistics and electronic data processing in the context of mass communication research problems, with an emphasis on multivariate analyses.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MSP 5011|Minimum Grade of B-|May not be taken concurrently
AND MSP 5114|Minimum Grade of B-|May not be taken concurrently)

MSP 5042. Media Technology and Culture. 3 Credit Hours.
This course examines the relationships between technological developments and artifacts and cultural transformations. With a grounding in critical texts addressing the complex interplay between culture and media technologies, the course investigates the significance of both in social power, human agency, consciousness, identity, socio-political realities, public policy, knowledge, and the environment.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MSP 5011|Minimum Grade of B-|May be taken concurrently
AND MSP 5114|Minimum Grade of B-|May be taken concurrently)
MSP 5110. Introductory Topics in Broadcasting, Telecommunications, and Mass Media. 1 to 4 Credit Hour.
Rotating special topics course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MSP 5114. Communication Research Methods. 3 Credit Hours.
The underlying philosophy and survey of research methods as tailored to media issues. Topics include market research, rating systems, polling, surveys, depth interviews, content analysis, focus groups, ethnography, and field and laboratory experiments.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MSP 5246. Social History Mass Comm. 4 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MSP 5310. Introductory Topics in Broadcasting, Telecommunications, and Mass Media. 1 to 4 Credit Hour.
Rotating special topics course. Content varies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MSP 5547. MA Project Workshop. 3 Credit Hours.
This workshop-style course gives students the preproduction and previsualization tools needed to design and produce a well-crafted, well-researched media production for their Media Studies and Production Master of Arts final graduate project.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MSP 5011|Minimum Grade of C|May be taken concurrently)
AND (MSP 5114|Minimum Grade of C|May be taken concurrently)

MSP 5551. Media Literacy. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MSP 5655. Communication in Organizations. 3 Credit Hours.
Review of theories of organizational structure, their relationship to broadcasting and mass media processes, and current practices and underlying communication systems which support them.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MSP 5011|Minimum Grade of B-|May not be taken concurrently)
AND MSP 5114|Minimum Grade of B-|May not be taken concurrently

MSP 5663. Art and Business of Recording. 3 Credit Hours.
An examination of the creative, business, and legal issues involved in the process of a music recording project from the perspective of the Record Producer. Students develop skills related to the understanding of music industry contracts, project budgeting and financing, copyright and publishing. Significant time is also spent analyzing current industry trends, developing leadership skills, and individual growth of a unique production style within an historical perspective.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
MSP 5701. Graduate TV Production. 4 Credit Hours.
Radio, television, and computer technologies to produce entertainment, corporate, and public-oriented programming for network, cable, schools, and other profit and non-profit organizations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MSP 5702. MA Documentary Production and Studies. 3 or 4 Credit Hours.
This course is designed to help students create informative, engaging, thoroughly researched short documentary video from inception through creation. Students will gain experience as producers, directors, and editors of nonfiction audio/visual media. To provide practical and authentic experiences, most classes will mix topical class discussions with screenings, hands-on practice in areas of idea generation, research tools, production basics, editorial logic, interview design, production management, legal and fiscal responsibility, rights, clearance, fair use, funding, and distribution.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MSP 5788. Television Production Workshop. 8 Credit Hours.
Development of weekly half hour television programs exploring Philadelphia. Focuses on meeting professional standards in content, form, and technical quality. Summer only.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MSP 5887. Graduate Radio Practicum. 1 to 4 Credit Hour.
Students design and produce radio announcing and talk show projects.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MSP 8010. Intermediate Topics in Media Studies and Production. 3 Credit Hours.
Topic varies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MSP 8110. Intermediate Topics in Media Studies and Production. 4 Credit Hours.
Topics vary.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MSP 8221. History of Electronic Media. 3 Credit Hours.
Examination of the social, political, and technological history of electrical communications in the U.S., from forerunners of the telegraph through the modern telephone and integrated services of digital and broadband networks.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MSP 5021|Minimum Grade of B-|May not be taken concurrently.

MSP 8252. Law and Ethics of Digital Media. 3 Credit Hours.
Discussion of the legal and ethical issues facing the media in an online environment.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
MSP 8254. Public Information Campaigns. 3 Credit Hours.
Exploration of techniques and issues in information campaigns regarding health, energy conservation, environmental protection, and other topics, and campaigns' effects on public knowledge and behavior. Students conduct an actual campaign on campus.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MSP 5011|Minimum Grade of B-|May not be taken concurrently)
AND MSP 5114|Minimum Grade of B-|May not be taken concurrently)

MSP 8275. #ourmedia: Community, Activist, Citizens’ and Radical Media. 3 Credit Hours.
All over the world, people are taking media technologies out of the hands of corporations and using them in their own unique ways: neighbors in Germantown, Philadelphia run their own radio station; the Maori of New Zealand write, direct, and produce films and TV series that reflect their realities and dreams; young women and men in Egypt and Tunisia use social media to mobilize against authoritarian regimes; and indigenous people in rural Mexico developed their own cell phone network. This course will take you on a journey around the world, exploring indigenous media in Mexico, New Zealand and Canada; radical media in Egypt and Tunisia; citizens’ media in Colombia, Chile, Brazil, and Argentina; and immigrant media in Europe and the U.S. We will consider what it means for communities to create new narratives about and for themselves, outside of dominant corporate media structures. Along the way, the course will introduce issues of production, funding, regulation, technology, and design relevant to community/alternative/citizens’ media.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MSP 5011|Minimum Grade of B|May not be taken concurrently)
AND (MSP 5014|Minimum Grade of B|May not be taken concurrently)

MSP 8441. Media and Children. 3 Credit Hours.
Influence of the media on children's development. Includes problems of studying socialization effects, media usage patterns, functions of the media, effects on family interaction, social class and race, political socialization, sexual behavior, consumer behavior, music, and aggression.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MSP 5011|Minimum Grade of B-|May not be taken concurrently)
AND MSP 5114|Minimum Grade of B-|May not be taken concurrently)

MSP 8446. Psychological Processing of Media. 3 Credit Hours.
Research and theory concerning the contemporary psychological significance of media. Topics include attention, memory, comprehension, emotional response, arousal, picture perception, unconscious processing, and person perception as they relate to traditional (radio, TV, print, film) and emerging (virtual reality, teleconferencing) media.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MSP 5011|Minimum Grade of B-|May not be taken concurrently)
AND MSP 5114|Minimum Grade of B-|May not be taken concurrently)

MSP 8457. Political Communication. 4 Credit Hours.
Covers political communication theories, modes, means and institutions and serves as an introduction to how communication scholars study politics and the media.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MSP 5011|Minimum Grade of B-|May not be taken concurrently)
AND MSP 5114|Minimum Grade of B-|May not be taken concurrently)
MSP 8471. Global Media. 3 Credit Hours.
Study of the economic policy and technology of the emerging global communication system. Specific issues include transborder data flow, international organizations, and issues of cultural and national sovereignty.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MSP 5021|Minimum Grade of B-|May not be taken concurrently.

MSP 8473. Information Society. 3 Credit Hours.
Covers origins of the information society, information as a commodity, micro and macro economics of information, globalization, identity and community online, privacy, security, intellectual property and new media, democracy online, and how to think about the future.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MSP 5011|Minimum Grade of B-|May not be taken concurrently
AND MSP 5114|Minimum Grade of B-|May not be taken concurrently)

MSP 8614. Creating a Media Business. 4 Credit Hours.
Principles of building one's own media business. Planning for a profit or non-profit media organization including market assessment, financing, and contracting.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MSP 8641. Broadcast and Cable Management. 4 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MSP 8657. Current Issues in Media Management. 3 Credit Hours.
Marketing strategies for networks, stations, and cable systems. Topics included relationships with government, networks, employee groups, and ownership; personnel policies and supervision, budgets and reports.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MSP 5655|Minimum Grade of B-|May not be taken concurrently.

MSP 8741. Cybermedia Workshop. 3 Credit Hours.
Hands-on development of content using new media forms. Students are involved in the design, scripting, and production of one or more programs. Projects may include interactive programs, "edutainment" games, multimedia presentations, and other digital content for distribution to business, schools, or consumers.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MSP 8985. Teach in Higher Ed: Comm. 3 Credit Hours.
Teaching in Higher Education: Communications. This course focuses on learning theory and the best teaching practices, with the aim of preparing students for effective higher education teaching.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
MSP 9333. Master Colloq/Comp Exam. 2 Credit Hours.
Comprehensive examination colloquium required for all MA students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MSP 9787. Television Practicum. 4 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MSP 9841. Seminar in Comm. 6 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MSP 9845. Masters Colloquium. 1 Credit Hour.
Current problems and opportunities in the field, discussions and presentations of current research, and lectures by senior scholars.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MSP 9845. Directed Readings in Communication. 1 to 4 Credit Hour.
Tutorial course supervised by a specific MSP faculty member. Obtain required form from SMC Graduate Office in 344 Annenberg Hall.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MSP 9985. Internship. 1 to 4 Credit Hour.
Open only to BTMM or MSP MA students with at least 20 semester hours completed. Students work as unpaid interns at compatible media industries and organizations. Enrollment limited to availability.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MSP 9991. Directed Projects in Communication. 1 to 4 Credit Hour.
Tutorial course supervised by a specific MSP faculty member. Obtain required form from SMC Graduate Office in 344 Annenberg Hall.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MSP 9996. MA Thesis/Project. 1 to 8 Credit Hour.
MA Thesis/Project. No more than six credits may be counted toward the degree. See MSP Policies and Procedures.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Middle Grades Education (MGRE)

Courses

MGRE 5101. Citizenship, Cultures, and Social Studies Education. 3 Credit Hours.
This course examines ways to teach about diversity and dialogue in the practice of democracy. Using the social studies content areas and research in social justice, special attention is paid to the areas of multicultural and citizenship education as well as other compelling topics that influence the public or common good in a diverse society such as race relations, gender socialization, language differences, immigration, religious freedom, equality of economic and social opportunities, and global interdependence.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
MGRE 5102. Reading and Writing in the Middle Grades. 2 to 3 Credit Hours.
The purpose of this course is to prepare pre-service teachers to teach reading and writing in the upper elementary and middle level settings. Students will be introduced to theories and current views of practice in the literacy field. The areas of language, listening, reading and writing are presented throughout this course as interrelated and integrated literacy processes. Emphasis will be on providing pre-service teachers with the competencies to implement strategic instructional practices and engage in ongoing assessment for a diverse middle grades population. We will also identify ways to build classroom communities through literacy practices.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(EDUC 5402|Minimum Grade of C|May not be taken concurrently
AND MGRE 5101|Minimum Grade of C|May not be taken concurrently)

MGRE 5404. Teaching Math in the Middle Grades. 3 Credit Hours.
This course will focus on numbers, operations, and algebra, as appropriate for the middle grades. Special attention will be paid to understanding the conceptual difficulties students have in moving from whole numbers to rational numbers, additive thinking to multiplicative thinking, and arithmetic to algebra. Problem-solving, connections, and concrete models are emphasized. The particular content knowledge needed for teaching will be integrated in this course with general and content-specific pedagogies. Issues of planning, instruction, and assessment will be discussed. Field experiences in the form of small group instruction will support these discussions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MGRE 5405. Teaching Science in the Middle Grades. 3 Credit Hours.
This course will focus on the “big ideas” in the sciences as appropriate for the middle grades. Special attention will be paid to understanding the pre- and mis-conceptions that middle-level students hold. Scientific inquiry and its associated process skills will be emphasized. The particular content knowledge needed for teaching will be integrated in this course with general and content-specific pedagogies. Issues of planning, instruction, and assessment will be discussed. Field experiences in the form of small-group instruction and isolated whole-group instruction will support these discussions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Music (MUSC)

Courses

MUSC 5000. Recital Extension. 2 Credit Hours.
Extension of private applied lessons beyond performance curriculum requirements on both undergraduate and graduate levels in order to complete preparation for the graduation recital. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses. NOTE: Not applicable toward degree. Offered on pass/fail basis only. Private lesson fee: $350.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 5152. Swing Owls Campus Community Jazz Band. 1 Credit Hour.
The Swing Owls is a jazz band comprised of Temple University students (majors and non-majors) and members of the Greater Philadelphia Community. No audition is required for membership. The ensemble meets one evening per week, totaling two hours of rehearsal, and performs a concert at the end of each semester. Members may elect to participate for Temple University academic credit or pay a nominal fee to join as a community member (course credit is not transcripted in the latter choice). NOTE: Ability to read music is required; personally owned instrument or rental needed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MUSC 5201. Applied Vocal Graduate Minor. 2 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUSC 5202. Applied Vocal Graduate Minor. 2 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 5203. Applied Vocal Graduate Minor. 2 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 5310. Choral Ensemble. 1 Credit Hour.
Advanced performance of standard choral literature. At least one public performance per semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 5352. Singing Owls Campus/Community Choir. 0 to 1 Credit Hours.
The Singing Owls is a chorus comprised of Temple University students and members of the Greater Philadelphia community, and is open to all without audition. The ensemble rehearses once weekly and performs once per semester. Repertoire is varied and diverse. Members may elect to participate for Temple University academic credit or pay a nominal fee to join as a community member.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MUSC 5401. Applied Keyboard Graduate Minor. 2 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 5402. Applied Keyboard Graduate Minor. 2 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 5403. Applied Keyboard Graduate Minor. 2 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 5431. Alexander Technique Introduction. 1 Credit Hour.
This course offers a basic understanding of the history and principles of the Alexander Technique. It is designed to enable the student to enhance expression and performance skills, prevent injuries, and develop healthy practice and rehearsal techniques. The technique offers a practical solution to ongoing issues with pain and fatigue, effective expression and intonation, breath support and stage presence. The principles can be applied to all areas of creative expression, from instrumental, vocal and dance technique, to acting, writing, painting and sculpting.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 5501. Applied Instrumental Graduate Minor. 2 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUSC 5502. Applied Instrumental Graduate Minor. 2 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 5503. Applied Instrumental Graduate Minor. 2 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 5552. Samba Owls. 1 Credit Hour.
A fun, high-energy musical ensemble exploring the rhythms, sounds, and movement of Brazil's samba schools. Participants will learn actively as a performing member of a *batucada*, the traditional percussion ensemble of the samba groups. Students are involved in rhythm, drumming, movement, and singing/vocalization. There are no musical prerequisites - anyone is welcome to join.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credit.

MUSC 5556. Hand Percussion Techniques for Drummers, Dancers and Concert Percussionists. 1 to 2 Credit Hour.
The course will cover techniques and basic patterns for the conga drums, bongos, timbal, and afro-cuban accessory percussion instruments. Students will be introduced to concepts from the Latin and Caribbean musical traditions, receive hands-on training and develop practical performance skills on a variety of instruments, and increase their awareness and understanding of the appropriate use of these instruments in different musical ensembles.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 5560. Seminar in Guitar Performance and Literature. 1 to 2 Credit Hour.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 5652. Owlchestra Campus Community String Orchestra. 1 Credit Hour.
The Owlchestra is a string orchestra comprised of Temple University students (majors and non-majors) and members of the Greater Philadelphia Community. No audition is required for membership. The ensemble meets one evening per week, totaling two hours of rehearsal, and performs a concert at the end of each semester. Members may elect to participate for Temple University academic credit or pay a nominal fee to join as a community member (course credit is not transcripted in the latter choice). NOTE: Ability to read music is required; personally owned instrument or rental needed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MUSC 8000. Continuing Registration Status. 1 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 8004. Piano Major Concentration in Pedagogy. 2 Credit Hours.
Private lessons for graduate Piano Pedagogy majors. One-hour lesson each week plus performance class. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Piano Pedagogy.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUSC 8014. Piano Major Concentration in Pedagogy. 2 Credit Hours.
Private lessons for graduate Piano Pedagogy majors. One-hour lesson each week plus performance class. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Piano Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8004|Minimum Grade of B-|May not be taken concurrently.

MUSC 8024. Piano Major Concentration in Pedagogy. 2 Credit Hours.
Private lessons for graduate Piano Pedagogy majors. One-hour lesson each week plus performance class. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Piano Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8014|Minimum Grade of B-|May not be taken concurrently.

MUSC 8084. Piano Major Concentration in Pedagogy (Recital). 3 Credit Hours.
Private lessons for graduate Piano Pedagogy majors culminating in a recital. One-hour private lesson each week. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Piano Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8024|Minimum Grade of B-|May not be taken concurrently.

MUSC 8180. Special Topics in Percussion. 1 to 3 Credit Hour.
This course is designed to provide the opportunity for students to acquire important and practical knowledge and experience in areas of percussion not covered in other courses. Subjects include instrument design, maintenance and repair, and Latin Percussion. Content may vary each semester.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Repeatability: This course may be repeated for additional credit.

MUSC 8204. Voice Major. 3 Credit Hours.
Private lessons for graduate Voice majors. One-hour private lesson each week plus performance class. Jury at the end of the semester. Full recital during final year of study.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Repeatability: This course may not be repeated for additional credits.
MUSC 8205. Musical Theater Voice and Acting. 1 to 3 Credit Hour.
Advanced work in the application of performance techniques to specific songs from the American Musical Theater of the first half of the 20th century. The incorporation of truthful acting with attention to given circumstances and objectives is blended with principles of healthy, supported singing.

Department Restrictions: Must be enrolled in one of the following Departments: Music:Education, Music:Studies, CA:Theater.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MUSC 8206. Musical Theater Scene Study. 1 to 3 Credit Hour.
Advanced work in the application of performance techniques to specific scenes from the American Musical Theater provides further development for the student of musical theater. Vocal and acting skills are combined with the development of character in musical play scene-work including both song and dialogue. Students spend the semester in collaboration with fellow students on notable and challenging scenes from the musical theater.

Department Restrictions: Must be enrolled in one of the following Departments: Music:Education, Music:Studies, CA:Theater.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MUSC 8210. Opera Ensemble. 0 to 1 Credit Hours.
Required for singers cast in Temple University Opera Theater productions.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 8211. Opera Coaching. 2 Credit Hours.
Private lessons for graduate Opera majors. One-hour private lesson each week. Emphasis on interpretation, diction, and style through study of operatic aria repertoire and/or operatic role study. May be taken one time only.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8212. Coaching Skills. 2 Credit Hours.
Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 8213. Opera Diction. 2 Credit Hours.
Designed to apply general knowledge about the International Phonetic Alphabet and the flavors of French, Italian, German, and English diction directly to repertoire. Emphasis on the expressive projection of text in singing. Singers must prepare at least one aria in each language.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUSC 8214. Voice Major. 3 Credit Hours.
Private lessons for graduate Voice majors. One-hour private lesson each week plus performance class. Jury at the end of the semester. Full recital during final year of study.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8204|Minimum Grade of B-|May not be taken concurrently.

MUSC 8215. Vocal Coaching. 2 Credit Hours.
Emphasis on style, diction, phrasing, and performance traditions in preparation for the master’s degree recital. May be taken one time only.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8216. Aria Repertoire. 2 Credit Hours.
Required course for all Opera majors; others by permission of the instructor.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8220. Opera Workshop. 2 Credit Hours.
Voice and Opera majors only. Gives singers practical experience on the stage and performance of operatic roles.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 8224. Voice Major. 3 Credit Hours.
Private lessons for graduate Voice majors. One-hour private lesson each week plus performance class. Jury at the end of the semester. Full recital during final year of study.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8214|Minimum Grade of B-|May not be taken concurrently.

MUSC 8231. Opera Role Preparation. 3 Credit Hours.
For Professional Studies majors only. Preparation for performances of Opera roles directed by the Temple University Opera Theater faculty, with laboratory experience through participation in Opera Theater.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUSC 8232. Opera Role Preparation. 3 Credit Hours.
For Professional Studies majors only. Preparation for performances of Opera roles directed by the Temple University Opera Theater faculty, with laboratory experience through participation in Opera Theater.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8233. Vocal Coaching: Professional Studies. 2 Credit Hours.
Vocal coaching for Professional Studies Voice or Opera majors only.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8234. Opera Major. 2 Credit Hours.
Private lessons for graduate Opera majors. One-hour lesson each week plus performance class. Jury at the end of the semester.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8235. Opera Vocal Lessons. 2 Credit Hours.
For Professional Studies majors only. One-hour private lesson each week. Jury at the end of the semester.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8236. Opera Vocal Lessons. 2 Credit Hours.
For Professional Studies majors only. One-hour private lesson each week. Jury at the end of the semester.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8235|Minimum Grade of B-|May not be taken concurrently.

MUSC 8244. Opera Major. 2 Credit Hours.
Private lessons for graduate Opera majors. One-hour lesson each week plus performance class. Jury at the end of the semester.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8234|Minimum Grade of B-|May not be taken concurrently.
MUSC 8245. Vocal Literature: Renaissance and Baroque. 2 Credit Hours.
A singer's examination of repertoire for solo voice beginning with the song literature of the Middle Ages and concluding with Baroque Opera.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8246. Vocal Literature: Classical/Bel Canto. 2 Credit Hours.
Examination of opera and concert repertoire in the bel canto style, with emphasis on Mozart, Bellini, Donizetti, and Rossini. Art of vocal embellishment and cadenza writing. Opportunity to implement skills through class performance. Studies in historical context as well as harmonic and textual analysis.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8247. Vocal Literature: German Romantic. 2 Credit Hours.
Survey of the German solo vocal repertoire of the Romantic period, with detailed studies of the major works.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8248. Vocal Literature: French Romantic. 2 Credit Hours.
Survey of the French solo vocal repertoire of the Romantic period, with detailed studies of the major works.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8249. Vocal Literature: Contemporary. 2 Credit Hours.
The foundation for this course is an overview of the vocal repertoire of the 20th and 21st centuries, which will examine the changing role of the singer in contemporary music.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8254. Opera Major. 2 Credit Hours.
Private lessons for graduate Opera majors. One-hour lesson each week plus performance class. Jury at the end of the semester.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8244|Minimum Grade of B-|May not be taken concurrently.
MUSC 8264. Opera Major. 2 Credit Hours.
Private lessons for graduate Opera majors. One-hour lesson each week plus performance class. Jury at the end of the semester.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8254|Minimum Grade of B-|May not be taken concurrently.

MUSC 8274. Opera Role Performance. 1 Credit Hour.
Master's degree students in Opera must demonstrate mastery of the music/characterization of two adjudicated opera roles. This is fulfilled through performance of a role in Temple University Opera Theater productions designated as a major role or by passing a pre-approved performance examination.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8224|Minimum Grade of B-|May not be taken concurrently.

MUSC 8284. Voice Major-Recital. 3 Credit Hours.
Private lessons for graduate Voice majors. One-hour private lesson each week. Jury at the end of the semester. Full recital during final year of study.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8224|Minimum Grade of B-|May not be taken concurrently.

MUSC 8300. Concert Choir. 0 to 1 Credit Hours.
By audition only. Select ensemble with significant performance schedule, including tours.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 8310. Choral Ensemble. 1 Credit Hour.
Advanced performance of standard choral literature. At least one public performance per semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 8320. Special Topics: Choral Music. 1 to 3 Credit Hour.
Literature, analysis, conducting, and related skills.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Choral Conducting.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.
MUSC 8351. Choral Conducting Seminar I. 2 Credit Hours.
Advanced course for the graduate student who is active in the choral field. Designed to refine skills of conducting technique, rehearsal and program planning, research and analysis, observation, and practical application.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Choral Conducting.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8352. Choral Conducting Seminar II. 2 Credit Hours.
Field of Study Restrictions: Must be enrolled in one of the following Majors: Choral Conducting.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8351|Minimum Grade of B-|May not be taken concurrently.

MUSC 8353. Choral Conducting Seminar III. 2 Credit Hours.
Culminates in the first of two public recitals.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Choral Conducting.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8352|Minimum Grade of B-|May not be taken concurrently.

MUSC 8354. Choral Conducting Seminar IV. 2 Credit Hours.
Culminates in the second of two public recitals.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Choral Conducting.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8353|Minimum Grade of B-|May not be taken concurrently.

MUSC 8356. Choral Literature: Early Period. 2 Credit Hours.
Study of choral works from the 15th century through Renaissance period. Emphasis on analysis, conducting, interpretation, and performance practices.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Choral Conducting.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8357. Choral Literature: Classic and Romantic Periods. 2 Credit Hours.
Study of choral works from the Classic and Romantic periods. Analysis, conducting, interpretation, performance practices, and historical context emphasized.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Choral Conducting.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUSC 8358. Choral Literature: Baroque Period. 2 Credit Hours.
Study of choral works from the Baroque period. Survey plus in-depth study of several major works.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Choral Conducting.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8359. Choral Literature: 1910 to the Present. 2 Credit Hours.
Study of choral works from precursors to Impressionism to the current avant garde.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Choral Conducting.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8384. Private Lesson: Choral Conducting Major. 1 Credit Hour.
For graduate Choral Conducting majors only. Private lessons in preparation for graduation recital performances with the Graduate Conductors' Chorus and the Recital Chorus.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Choral Conducting.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
MUSC 8351|Minimum Grade of B-|May not be taken concurrently.

MUSC 8404. Piano Major. 3 Credit Hours.
Private lessons for graduate Piano majors. One-hour lesson each week plus performance class. Full recital during final year of study. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8414. Piano Major. 3 Credit Hours.
Private lessons for graduate Piano majors. One-hour lesson each week plus performance class. Full recital during final year of study. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8404|Minimum Grade of B-|May not be taken concurrently.

MUSC 8416. Piano for Accompanying and Chamber Music Majors. 2 Credit Hours.
Private lessons for graduate Piano Accompanying and Chamber Music majors. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations. One-hour lesson each week plus performance class.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Piano Accp-Chmbr Music, Piano Accp-Opera Coach.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUSC 8417. Piano for Accompanying and Chamber Music Majors. 2 Credit Hours.
Private lessons for graduate Piano Accompanying and Chamber Music majors. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations. One-hour lesson each week plus performance class.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Piano Accp-Chmbr Music, Piano Accp-Opera Coach.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8416|Minimum Grade of B-|May not be taken concurrently.

MUSC 8418. Piano for Accompanying and Chamber Music Majors. 2 Credit Hours.
Private lessons for graduate Piano Accompanying and Chamber Music majors. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations. One-hour lesson each week plus performance class.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Piano Accp-Chmbr Music, Piano Accp-Opera Coach.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8417|Minimum Grade of B-|May not be taken concurrently.

MUSC 8419. Piano for Accompanying and Chamber Music Majors. 2 Credit Hours.
Private lessons for graduate Piano Accompanying and Chamber Music majors. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations. One-hour lesson each week plus performance class.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Piano Accp-Chmbr Music, Piano Accp-Opera Coach.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8418|Minimum Grade of B-|May not be taken concurrently.

MUSC 8424. Piano Major. 3 Credit Hours.
Private lessons for graduate Piano majors. One-hour lesson each week plus performance class. Full recital during final year of study. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8414|Minimum Grade of B-|May not be taken concurrently.

MUSC 8441. Seminar in Early Keyboard Instruments I. 3 Credit Hours.
For harpsichordists interested in expanding their knowledge of the repertoire as well as pianists wishing to gain harpsichord experience. The study, preparation, and performance of harpsichord and fortepiano literature in relation to the instrument itself and the historical context.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUSC 8442. Seminar in Early Keyboard Instruments II. 3 Credit Hours.
Harpsichord study focusing on the works of J.S. Bach. Fortepiano study will begin before midterm, with a study of the instrument itself and performance of classical piano works of Haydn, Mozart, Beethoven, and lesser-known composers of the period.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8441|Minimum Grade of B-|May not be taken concurrently.

MUSC 8443. Listening/Learning Skills: Piano I. 3 Credit Hours.
Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8444. Listening/Learning Skills: Piano II. 3 Credit Hours.
Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance, Piano Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8461. Piano Pedagogy I. 2 Credit Hours.
Designed to equip teachers to train intermediate and advanced piano students. Investigation of materials relevant to teaching at this level.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance, Piano Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8462. Class Piano Pedagogy. 2 Credit Hours.
Techniques involved in teaching group piano; survey of available methods and materials; student teaching under supervision of instructor.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance, Piano Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 8463. Class Piano Practice Teaching II. 2 Credit Hours.
Practicum in class piano teaching under supervision of professor, with weekly meetings on methodology and materials.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance, Piano Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8462|Minimum Grade of B-|May not be taken concurrently.

MUSC 8464. Pedagogy of Technique. 2 Credit Hours.
Developing clear and intelligent pedagogical methods for all aspects of piano technique. Historical development of keyboard technique is reviewed; an overview of fundamental physiological principles involved in playing the piano is presented.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance, Piano Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUSC 8465. Piano Pedagogy II. 2 Credit Hours.
Exploration of advanced topics in teaching piano to students at intermediate to advanced levels of ability.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance, Piano Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8461|Minimum Grade of B-|May not be taken concurrently.

MUSC 8466. Piano Pedagogy. 2 Credit Hours.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance, Piano Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8467. American Piano Pedagogy. 1 Credit Hour.
A series of six one-semester independent studies to be taken by international graduate piano students, both master's and doctoral level, who received the major share of their training outside of the United States. Lessons familiarize them with: 1. American pedagogical method books; 2. American technical approaches; 3. American teaching materials for children; 4. American teaching materials for adults; 5. contemporary American keyboard literature; 6. how American competitions and job interviews are conducted. 7. how American pianists engage different pedagogical situations in various settings beyond the university which include teaching, conducting, and accompanying both individuals and groups. In addition to researching the above subjects through reading assignments, students are required to teach the piano actively outside the university and to write a paper at the end of the course summarizing differences between American methods and materials and those of their native lands.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Piano Accp-Chmbr Music, Performance, Piano Accp-Opera Coach, Piano Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8471. Recital Accompanying. 1 Credit Hour.
Practical experience in vocal and/or instrumental accompanying and chamber music.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Piano Accp-Chmbr Music, Piano Accp-Opera Coach, Piano Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8472. Recital Accompanying. 1 Credit Hour.
Practical experience in vocal and/or instrumental accompanying and chamber music.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Piano Accp-Chmbr Music, Piano Accp-Opera Coach, Piano Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8471|Minimum Grade of B-|May not be taken concurrently.
MUSC 8473. Recital Accompanying. 1 Credit Hour.
Practical experience in vocal and/or instrumental accompanying and chamber music.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Piano Accp-Chmbr Music, Piano Accp-Opera Coach, Piano Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8472|Minimum Grade of B-|May not be taken concurrently.

MUSC 8474. Recital Accompanying. 1 Credit Hour.
Practical experience in vocal and/or instrumental accompanying and chamber music.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Piano Accp-Chmbr Music, Piano Accp-Opera Coach, Piano Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8473|Minimum Grade of B-|May not be taken concurrently.

MUSC 8475. Studio Accompanying. 1 Credit Hour.
Practical accompanying experience in voice studio, with emphasis on repertoire building.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Piano Accp-Chmbr Music, Piano Accp-Opera Coach, Piano Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 8476. Suzuki for Pianists. 2 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8477. Baroque Keyboard Performance Practice. 3 Credit Hours.
A workshop approach to seeking ideas and solutions for stylistic and artistic performance of Baroque keyboard music. The writings of Frescobaldi, Couperin, and Quantz are compared to their musical compositions for direct experience in applying historical concepts to performance. Additional readings and music address general topics, such as embellishment, touch, and rhythmic conventions in the music of J.S. Bach.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance, Piano Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8478. Classical Keyboard Performance Practice. 3 Credit Hours.
A workshop approach to seeking ideas and solutions for stylistic and artistic performance of Classical keyboard music. The writings of C.P.E. Bach, Türk, and Clementi are compared to their musical compositions for direct experience in applying historical concepts to performance. Additional readings and music address general topics, such as ornamentation, pedaling, and tempo in the music of Haydn, Mozart, and Beethoven.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance, Piano Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUSC 8479. Romantic Performance Practice: The Schumanns, Chopin, and Brahms. 3 Credit Hours.
This seminar will focus on historically aware interpretations of keyboard, vocal, and chamber music by the Schumanns, Chopin, and Brahms. Special attention will be paid to the roles of improvisation, dance, and earlier instruments, along with questions of tempo, articulation, and rubato. Assignments will include reading, listening, and class performance.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance, Piano Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8480. Special Topics in Music. 1 to 3 Credit Hour.
Field of Study Restrictions: Must be enrolled in one of the following Majors: Piano Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 8484. Piano Major-Recital. 3 Credit Hours.
Private lessons for graduate Piano majors. One-hour lesson each week plus performance class. Full recital during final year of study. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Piano Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8424|Minimum Grade of B-|May not be taken concurrently.

MUSC 8500. Instrumental Ensemble. 1 Credit Hour.
By audition only.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 8504. Instrumental Major. 3 Credit Hours.
Private lessons for graduate Instrumental majors. One-hour lesson each week. Culminates in full recital during final year of study. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8510. Instrumental Ensemble. 1 Credit Hour.
By audition only.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.
MUSC 8514. Instrumental Major. 3 Credit Hours.
Private lessons for graduate Instrumental majors. One-hour lesson each week. Culminates in full recital during final year of study. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8504|Minimum Grade of B-|May not be taken concurrently.

MUSC 8520. Wind Chamber Symphony. 1 Credit Hour.
Singers selected from Concert Choir. Stipend may be available. Two performances per semester with graduate Conducting majors.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 8524. Instrumental Major. 3 Credit Hours.
Private lessons for graduate Instrumental majors. One-hour lesson each week. Culminates in full recital during final year of study. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8414|Minimum Grade of B-|May not be taken concurrently.

MUSC 8535. Private Lessons: Instrumental Conducting Major. 2 Credit Hours.
Private lessons and work with the Wind Symphony and Symphonic Band will lead to two public performances—one including large chamber wind pieces with select members of winds, brass, strings, and percussion students, and the other including several concert band pieces with the Wind Symphony and Symphonic Band. Performance schedule will extend across the academic year.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Instrument Condctng Wind Band.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Music.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8535|Minimum Grade of B-|May not be taken concurrently.

MUSC 8536. Private Lessons: Instrumental Conducting Major. 2 Credit Hours.
Private lessons and work with the Wind Symphony and Symphonic Band will lead to two public performances—one including large chamber wind pieces with select members of winds, brass, strings, and percussion students, and the other including several concert band pieces with the Wind Symphony and Symphonic Band. Performance schedule will extend across the academic year.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Instrument Condctng Wind Band.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Music.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUSC 8537. Private Lessons: Instrumental Conducting Major. 2 Credit Hours.
Private lessons and work with the Wind Symphony and Symphonic Band will lead to two public performances—one including large chamber wind pieces with select members of winds, brass, strings, and percussion students, and the other including several concert band pieces with the Wind Symphony and Symphonic Band. Performance schedule will extend across the academic year.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Instrument Conducting Wind Band.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Music.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MUSC 8535|Minimum Grade of B-|May not be taken concurrently)
AND (MUSC 8536|Minimum Grade of B-|May not be taken concurrently)

MUSC 8538. Private Lessons: Instrumental Conducting Major. 2 Credit Hours.
Private lessons and work with the Wind Symphony and Symphonic Band will lead to two public performances—one including large chamber wind pieces with select members of winds, brass, strings, and percussion students, and the other including several concert band pieces with the Wind Symphony and Symphonic Band. Performance schedule will extend across the academic year.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Instrument Conducting Wind Band.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Music.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MUSC 8535|Minimum Grade of B-|May not be taken concurrently)
AND (MUSC 8536|Minimum Grade of B-|May not be taken concurrently)
AND (MUSC 8537|Minimum Grade of B-|May not be taken concurrently)

MUSC 8539. Instrumental Conducting Seminar: Score Analysis, Programming & Interpretation of Wind Ensemble Lit. 2 Credit Hours.
Focus on score study, programming, rehearsal techniques and advancement of personal interpretation specifically related to the wind ensemble and its literature.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 8541. Advanced Orchestral Conducting I-II. 2 Credit Hours.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 8544. Wind Repertory in History: European Antiquity through the 21st Century. 2 Credit Hours.
This course will survey the development and repertory of wind-band music from European Antiquity through the present day. Course topics will include the examination and analysis of the development of instruments, cornerstone pieces in each period, performance practice considerations, commissioning projects, current state of wind-band performance opportunities, varied styles of concert programming, audio identification, and developing strategies to determine quality repertory for the medium.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.
MUSC 8545. History of Wind and Brass Chamber Music. 2 or 3 Credit Hours.
This class traces the use and development of small wind/brass chamber ensembles from the Middle Ages to the present. Consort types to be studied include the medieval waits; renaissance stadtpfeiffers; baroque oboe bands; classical harmonie, especially the Vienna Octet; 19th- and 20th-century woodwind and brass ensembles, especially quintets; and works for combinations of winds and brass. Emphasis is placed on their literature and listening to repertoire.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8546. Viola for Violinists. 1 Credit Hour.
Designed for Violin Performance or Education majors. Covers basic differences between playing violin and viola. Students should provide their own viola if possible.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8551. Percussion History, Development and Performance Practices. 2 to 3 Credit Hours.
The course is designed to enable students to engage the informational resources, general history, and performance practice of percussion in the traditional, Non-Western and contemporary contexts.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8552. Percussion Pedagogy. 2 to 3 Credit Hours.
This course is designed to enable students to develop the necessary knowledge and skills to make intelligent and informed decisions about the teaching of percussion instruments. Students analyze, compare, and critique curricula, teaching modalities, performance practices, methods, materials, and literature.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8553. Multi-Percussion in the Orchestra. 1 to 2 Credit Hour.
This course enables students to develop the complex skills necessary to perform multi-percussion and drum set parts in the symphony and chamber orchestra settings. Sample works to be covered include Creation of the World (Milhaud), L'Histoire du Soldat (Stravinsky), West Side Story Suite (Berstein), Facade (Walton), American in Paris (Gershwin), and works from the jazz and popular music styles.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8554. Orchestral Repertoire: Percussion. 1 or 2 Credit Hour.
Orchestra repertoire is designed to prepare students at a professional level for the specific demands of orchestral performance and auditions.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.
MUSC 8555. Orchestral Repertoire. 1 Credit Hour.
Weekly reading workshop to acquaint orchestral players with standard orchestral repertoire and playing techniques.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 8556. Afro-Cuban Percussion Techniques. 2 Credit Hours.
A practical study in the musical language and percussive traditions of Afro-Cuban and Latin American music. The goal is to equip the learner with greater knowledge, understanding, and practical performance skills with regard to percussion instruments of the Afro-Cuban musical traditions. Students will engage in group performance and improvisation and will hone ensemble and presentation skills. The course experience is largely a "hands-on" lab; therefore, students are required to attend the weekly meetings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 8561. Lower String Pedagogy. 2 to 3 Credit Hours.
Examination of problems in playing and presentation of developmental and remedial teaching techniques; exploration of solo literature and available teaching materials from beginning through advanced levels.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8562. Upper String Pedagogy. 2 to 3 Credit Hours.
Examines problems and teaching techniques, solo and ensemble literature, and available teaching materials at beginning through advanced levels.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8566. String Major/Pedagogy. 2 Credit Hours.
Private lessons for graduate String Pedagogy majors. One-hour lesson each week. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: String Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8567. String Major/Pedagogy. 2 Credit Hours.
Private lessons for graduate String Pedagogy majors. One-hour lesson each week. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: String Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8566|Minimum Grade of B-|May not be taken concurrently.
MUSC 8568. String Major/Pedagogy. 2 Credit Hours.
Private lessons for graduate String Pedagogy majors. One-hour lesson each week. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: String Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8567|Minimum Grade of B-|May not be taken concurrently.

MUSC 8569. String Major/Pedagogy. 2 Credit Hours.
Private lessons for graduate String Pedagogy majors. One-hour lesson each week. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: String Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8568|Minimum Grade of B-|May not be taken concurrently.

MUSC 8571. Studio Ensemble Pedagogy I. 1 Credit Hour.
Field of Study Restrictions: Must be enrolled in one of the following Majors: String Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8579. Orchestra Audition Prep. 1 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 8584. Instrumental Major (Recital). 3 Credit Hours.
Private lessons for graduate Instrumental majors. One-hour lesson each week. Culminates in full recital during final year of study. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8524|Minimum Grade of B-|May not be taken concurrently.

MUSC 8611. Harpsichord for Pianists. 3 Credit Hours.
A practical introduction to performance on the harpsichord for pianists with little or no experience with historical keyboards. Topics include history, technique and repertoire from ca. 1500-present.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUSC 8904. Harpsichord Major. 3 Credit Hours.
Private lessons for graduate Harpsichord majors. One-hour lesson each week. Culminates in full recital during final year of study. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 8914. Harpsichord Major. 3 Credit Hours.
Private lessons for graduate Harpsichord majors. One-hour lesson each week. Culminates in full recital during final year of study. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8904|Minimum Grade of B-|May not be taken concurrently.

MUSC 8924. Harpsichord Major. 3 Credit Hours.
Private lessons for graduate Harpsichord majors. One-hour lesson each week. Culminates in full recital during final year of study. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8914|Minimum Grade of B-|May not be taken concurrently.

MUSC 8984. Harpsichord Major. 3 Credit Hours.
Private lessons for graduate Harpsichord majors. One-hour lesson each week. Culminates in full recital during final year of study. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 8924|Minimum Grade of B-|May not be taken concurrently.

MUSC 9001. Appl Music-Prof Studies. 4 Credit Hours.
Private lessons for graduate Professional Studies majors. One-hour lesson each week. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUSC 9002. Appl Music-Prof Studies. 4 Credit Hours.
Private lessons for graduate Professional Studies majors. One-hour lesson each week. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 9001|Minimum Grade of B-|May not be taken concurrently.

MUSC 9004. Doctoral String Major. 3 Credit Hours.
Private lessons for doctoral String majors. One-hour lesson each week. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 9011. Doctoral Chamber Music. 1 Credit Hour.
Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 9012. Doctoral Chamber Music. 1 Credit Hour.
Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 9013. Doctoral Chamber Music. 1 Credit Hour.
Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 9014. Doctoral String Major. 3 Credit Hours.
Private lessons for doctoral String majors. One-hour lesson each week. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 9004|Minimum Grade of B-|May not be taken concurrently.

MUSC 9021. Chamber Music. 1 Credit Hour.
Advanced performance activities in small ensembles of various sizes and instrumentation.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.
MUSC 9024. Doctoral String Major. 3 Credit Hours.
Private lessons for doctoral String majors. One-hour lesson each week. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 9014|Minimum Grade of B-|May not be taken concurrently.

MUSC 9034. String Major Doctorate. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 9024|Minimum Grade of B-|May not be taken concurrently.

MUSC 9101. Professional Studies. 4 Credit Hours.
Private lessons for graduate Professional Studies majors. One-hour lesson each week. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Department Restrictions: Must be enrolled in one of the following Departments: Music: Boyer College.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MUSC 9001|Minimum Grade of B-|May not be taken concurrently
AND MUSC 9002|Minimum Grade of B-|May not be taken concurrently)

MUSC 9102. Professional Studies. 4 Credit Hours.
Private lessons for graduate Professional Studies majors. One-hour lesson each week. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Department Restrictions: Must be enrolled in one of the following Departments: Music: Boyer College.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MUSC 9001|Minimum Grade of B-|May not be taken concurrently
AND MUSC 9002|Minimum Grade of B-|May not be taken concurrently
AND MUSC 9101|Minimum Grade of B-|May not be taken concurrently)

MUSC 9104. Historical Keyboard Instruments Major/Doctoral. 3 Credit Hours.
Private lessons for doctoral Historical Keyboard majors. One-hour lesson each week. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations. This course emphasizes the preparation of advanced performers who specialize in historic performance on period keyboard instruments. The goals are performance at the highest professional level and the incorporation of historical performance and advanced theoretical skills. This course is a central component of the major.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUSC 9114. Historical Keyboard Instruments Major/Doctoral. 3 Credit Hours.
Private lessons for doctoral Historical Keyboard majors. One-hour lesson each week. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations. This course emphasizes the preparation of advanced performers who specialize in historic performance on period keyboard instruments. The goals are performance at the highest professional level and the incorporation of historical performance and advanced theoretical skills. This course is a central component of the major.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 9104|Minimum Grade of B|May not be taken concurrently.

MUSC 9124. Historical Keyboard Instruments Major/Doctoral. 3 Credit Hours.
Private lessons for doctoral Historical Keyboard majors. One-hour lesson each week. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations. This course emphasizes the preparation of advanced performers who specialize in historic performance on period keyboard instruments. The goals are performance at the highest professional level and the incorporation of historical performance and advanced theoretical skills. This course is a central component of the major.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 9114|Minimum Grade of B|May not be taken concurrently.

MUSC 9134. Historical Keyboard Instruments Major/Doctoral. 3 Credit Hours.
Private lessons for doctoral Historical Keyboard majors. One-hour lesson each week. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations. This course emphasizes the preparation of advanced performers who specialize in historic performance on period keyboard instruments. The goals are performance at the highest professional level and the incorporation of historical performance and advanced theoretical skills. This course is a central component of the major.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 9124|Minimum Grade of B|May not be taken concurrently.

MUSC 9182. Independent Study. 1 to 3 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 9184. DMA Solo Public Recital. 1 Credit Hour.
Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 9204. Voice Major/Doctoral. 3 Credit Hours.
One-hour weekly lesson for matriculated doctoral students only. Diagnostic jury at the end of the semester.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUSC 9210. Special Topics in Voice. 3 Credit Hours.
For DMA Voice Performance majors only. A seminar for singers. Emphasizes vocal technique as it relates to performance practice. Detailed examination of repertoire from selected historical periods.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 9214. Voice Major/Doctoral. 3 Credit Hours.
One-hour weekly lesson for matriculated doctoral students only.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 9024|Minimum Grade of B-|May not be taken concurrently.

MUSC 9220. Special Topics in Voice. 3 Credit Hours.
Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 9224. Voice Major/Doctoral. 3 Credit Hours.
One-hour weekly lesson for matriculated doctoral students only.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 9214|Minimum Grade of B-|May not be taken concurrently.

MUSC 9230. Special Topics in Voice. 2 Credit Hours.
For DMA Voice Performance majors only. A seminar for singers. Emphasizes vocal technique as it relates to performance practice. Detailed examination of repertoire from selected historical periods.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 9234. Voice Major Doctorate. 3 Credit Hours.
One-hour weekly lesson for matriculated doctoral students only.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 9224|Minimum Grade of B-|May not be taken concurrently.
MUSC 9240. Special Topics in Voice. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 9250. Special Topics in Vocal Pedagogy. 2 or 3 Credit Hours.
For DMA Voice Performance majors only. Specialized research regarding various aspects of vocal pedagogy.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 9251. Voice Pedagogy. 2 Credit Hours.
For DMA Voice Performance majors only. A survey of vocal pedagogical literature combined with studies in the elements of voice science.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 9262. Vocal Pedagogy II. 2 or 3 Credit Hours.
For DMA Voice Performance majors only. A continuation of MUSC 9261.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 9263. Advanced Vocal Pedagogy. 2 or 3 Credit Hours.
For DMA Voice Performance majors only. Examines problems in teaching techniques as applied to solo vocal literature.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 9282. Independent Study. 1 to 3 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 9351. Performance Traditions. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUSC 9384. DMA Chamber Recital. 1 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Repeatability: This course may be repeated for additional credit.

MUSC 9404. Piano Major/Doctoral. 3 Credit Hours.
One-hour weekly lesson plus performance class for matriculated doctoral students only. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Repeatability: This course may be repeated for additional credit.

MUSC 9414. Piano Major/Doctoral. 3 Credit Hours.
One-hour weekly lesson plus performance class for matriculated doctoral students only. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 9404|Minimum Grade of B-|May not be taken concurrently.

MUSC 9424. Piano Major/Doctoral. 3 Credit Hours.
One-hour weekly lesson plus performance class for matriculated doctoral students only. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 9414|Minimum Grade of B-|May not be taken concurrently.

MUSC 9434. Piano Major Doctorate. 3 Credit Hours.
One-hour weekly lesson plus performance class for matriculated doctoral students only. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 9424|Minimum Grade of B-|May not be taken concurrently.

MUSC 9451. Keyboard Literature-Doctoral. 2 Credit Hours.
An intensive study of problem areas of piano literature: stylistic transitional periods, composers' notational idiosyncrasies, tempo concepts, etc.; the relationship of piano music to music for other media and to other art forms; the role of analysis in interpretation. Specific composers' output is examined in depth.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Repeatability: This course may be repeated for additional credit.
MUSC 9452. Keyboard Literature-Doctoral. 2 Credit Hours.
An intensive study of problem areas of piano literature: stylistic transitional periods, composers' notational idiosyncrasies, tempo concepts, etc.; the relationship of piano music to music for other media and to other art forms; the role of analysis in interpretation. Specific composers' output is examined in depth.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 9453. Keyboard Literature-Doctoral. 2 Credit Hours.
An intensive study of problem areas of piano literature: stylistic transitional periods, composers' notational idiosyncrasies, tempo concepts, etc.; the relationship of piano music to music for other media and to other art forms; the role of analysis in interpretation. Specific composers' output is examined in depth.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 9454. Keyboard Literature-Doctoral. 2 Credit Hours.
An intensive study of problem areas of piano literature: stylistic transitional periods, composers' notational idiosyncrasies, tempo concepts, etc.; the relationship of piano music to music for other media and to other art forms; the role of analysis in interpretation. Specific composers' output is examined in depth.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 9461. Piano Pedagogy. 2 Credit Hours.
Study of the teaching of difficult works of piano literature: virtuoso pieces, large-scale concertos, sonatas, and other works. Style, structure, and technique are explored.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 9504. Doctoral Instrumental Major. 3 Credit Hours.
Private lessons for doctoral Instrumental majors. One-hour lesson each week. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 9514. Doctoral Instrumental Major. 3 Credit Hours.
Private lessons for doctoral Instrumental majors. One-hour lesson each week. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 9504|Minimum Grade of B-|May not be taken concurrently.
MUSC 9515. Technical and Interpretive Seminar-Strings. 2 Credit Hours.
Comprehensive analysis of 17th- and 18th-century works for unaccompanied strings.

Field of Study Restrictions: Must be enrolled in one of the following Majors: String Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 9516. Seminar for String Literature. 2 Credit Hours.
Comprehensive study of the major string works of selected composers and genres. Solo and chamber works.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 9517. Advanced Conducting-Doctoral. 2 Credit Hours.
Detailed analysis of scores as if in preparation for a concert. Emphasis on interpretation and refinement of baton technique. Practical rehearsal procedures are covered, and Philadelphia Orchestra rehearsals are attended when possible.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 9524. Doctoral Instrumental Major. 3 Credit Hours.
Private lessons for doctoral Instrumental majors. One-hour lesson each week. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 9514|Minimum Grade of B-|May not be taken concurrently.

MUSC 9534. Doctoral Instrumental Major. 3 Credit Hours.
Private lessons for doctoral Instrumental majors. One-hour lesson each week. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUSC 9524|Minimum Grade of B-|May not be taken concurrently.

MUSC 9561. Single Reed Woodwind Ped. 2 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUSC 9562. Double Reed Woodwind Pedagogy. 2 Credit Hours.
Designed to apply principles of private instruction to the major instrument of study with regard to methodology, literature, stylistic concepts, technique, and transcription.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 9563. Upper String Pedagogy. 3 Credit Hours.
Examination of problems in playing and teaching techniques. Explores solo and ensemble literature, as well as available teaching materials at beginning through advanced levels.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance, String Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 9564. Flute Pedagogy. 2 Credit Hours.
Designed to apply principles of private instruction to the major instrument of study with regard to methodology, literature, stylistic concepts, technique, and transcription.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 9565. Lower Brass Pedagogy. 2 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 9566. Upper Brass Pedagogy. 2 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 9567. Lower String Pedagogy. 2 to 3 Credit Hours.
Advanced examination of problems in playing and teaching techniques. Explores solo and ensemble literature, as well as available teaching materials at beginning through advanced levels.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Performance, String Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 9587. Practicum: String Pedagogy. 2 Credit Hours.
For String Pedagogy majors only. Application of methods and repertoire to the teaching of String students in actual classroom and private settings.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance, String Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.
MUSC 9684. DMA Lecture-Recital. 1 Credit Hour.
Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 9701. Doct Perf Practice I. 2 or 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 9702. Doct Perf Practice II. 2 or 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 9784. DMA Performance with Orchestra. 1 Credit Hour.
Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 9884. DMA Major Opera Role. 1 Credit Hour.
Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 9984. DMA Final Recital. 1 Credit Hour.
Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 9984. Preliminary Examination Preparation. 1 to 6 Credit Hour.
Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 9985. Final Project in Music. 0 to 2 Credit Hours.
Designed with assistance of the advisor. Demonstrates specialized study in a specific area but may include a lecture/recital, teaching demonstration, research paper, or article.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUSC 9996. Final Project: String Pedagogy. 2 Credit Hours.
Final project for master’s String Pedagogy majors, designed with assistance of the advisor. Demonstrates specialized study in a specific pedagogical area. Final presentations vary among majors, but typically include a lecture/recital, teaching demonstration, research paper, article, or method book.
Field of Study Restrictions: Must be enrolled in one of the following Majors: String Pedagogy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.
MUSC 9998. Pre-Dissertation Research. 1 to 6 Credit Hour.
Registration required each semester after Preliminary Examinations while researching the dissertation proposal.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUSC 9999. Monograph Research. 1 to 6 Credit Hour.
Field of Study Restrictions: Must be enrolled in one of the following Majors: Performance.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.

Music Education (MUED)

Courses

MUED 5551. Percussion. 1 Credit Hour.
Advanced methods for teaching percussion skills to students in a school setting. Topics may include but are not limited to: literature selection, various instrument performance idiosyncrasies, hand position and posture, maintenance, repair, proactive teaching and troubleshooting, methods and materials; instrument makes, accessories. Students are required to develop playing knowledge of instruments and literature.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Education.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUED 5552. Woodwinds I. 1 Credit Hour.
Methods for teaching woodwind skills to students in a school setting. Topics may include but are not limited to: literature selection, instrument assembly, hand position and posture, maintenance, assembling, embouchure, tone production, transposition, fingerings, range; proactive teaching and troubleshooting, methods and materials; instrument makes, and accessories. Students are required to develop a fundamental playing knowledge of instruments. NOTE: Required for all MPC majors.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Education.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Repeatability: This course may not be repeated for additional credits.

MUED 5553. Upper Strings. 1 Credit Hour.
Methods for teaching string skills to students in a school setting. Topics may include but are not limited to: literature selection, fingering and bowing patterns, shifting, vibrato, hand position and posture, maintenance, tone production, proactive teaching and troubleshooting, methods and materials; instrument makes, and accessories. Students are required to develop a fundamental playing knowledge of instruments.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Education.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Repeatability: This course may not be repeated for additional credits.
MUED 5554. Lower Strings. 1 Credit Hour.
Methods for teaching string skills to students in a school setting. Topics may include but are not limited to: literature selection, fingering and bowing patterns, shifting, vibrato, hand position and posture, maintenance, tone production, proactive teaching and troubleshooting, methods and materials; instrument makes, accessories. Students are required to develop a fundamental playing knowledge of instruments.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Education.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Repeatability: This course may not be repeated for additional credits.

MUED 5555. Brass I. 1 Credit Hour.
Methods for teaching brass skills to students in a school setting. Topics may include but are not limited to: literature selection, instrument assembly, hand position and posture, maintenance, embouchure, tone production, transposition, fingerings, range; proactive teaching and troubleshooting, methods and materials; instrument makes, accessories. Students are required to develop a fundamental playing knowledge of instruments.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Education.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Repeatability: This course may not be repeated for additional credits.

MUED 5556. Brass II. 1 Credit Hour.
Advanced methods for teaching brass skills to students in a school setting. Topics may include but are not limited to: literature selection, instrument assembly, hand position and posture, maintenance, embouchure, tone production, transposition, fingerings, range; proactive teaching and troubleshooting, methods and materials; instrument makes, accessories, and repairs. Students are required to develop a fundamental playing knowledge of instruments.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Education.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Repeatability: This course may not be repeated for additional credits.

MUED 5557. Woodwinds II. 1 Credit Hour.
Methods for teaching double reed skills to students in a school setting. Topics may include but are not limited to: literature selection, instrument assembly, hand position and posture, maintenance, embouchure, tone production, transposition, fingerings, range; proactive teaching and troubleshooting, methods and materials; instrument makes, and accessories. Students are required to develop a fundamental playing knowledge of instruments.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Education.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Repeatability: This course may not be repeated for additional credits.

MUED 5558. Guitar I. 1 Credit Hour.
Carefully sequenced developmental technical exercises designed to achieve competency with basic chord formations in all keys.

Department Restrictions: Must be enrolled in one of the following Departments: Music:Education.
Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Education.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUED 5559. Guitar II. 1 Credit Hour.
A continuation of Music Education 5558 in which skills are further developed to include positions and more advanced folk and popular accompaniment techniques.

Department Restrictions: Must be enrolled in one of the following Departments: Music:Education.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUED 5558|Minimum Grade of C-|May not be taken concurrently.

MUED 5649. Of Sound Mind and Body: Musical and Nonmusical Strategies for Optimal Resiliency and Wellness. 1 Credit Hour.
This course will explore how the expressive arts, and especially music, can enhance the process of becoming aware of, making choices toward, and engaging in practices that result in a resilient, healthy and fulfilling life.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MUED 5650. Contemporary Problems in Music Education: Individual Study. 1 to 3 Credit Hour.
Study of recent trends and issues in Music Education through critical examination of research and practical application of selected techniques.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MUED 5651. Performance Anxiety. 1 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUED 5652. Night Owls Campus/Community Band. 0 or 1 Credit Hours.
The Night Owls Campus/Community Band is a large concert wind band that is comprised of Temple University students (majors and non-majors) and community members from the Greater Philadelphia area. No audition is required for membership. The ensemble meets one evening per week, totaling two hours of rehearsal, and performs a concert at the end of each semester. Repertory performed includes standard wind literature and crowd-pleasing favorites. Members may elect to participate for Temple University academic credit or pay a nominal fee to join as a community member (course credit is not transcripted in the latter choice). NOTE: Ability to read music is required; personally owned instrument or rental needed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MUED 5653. Effective Arts Education Environments: Managing the Classroom. 3 Credit Hours.
This course focuses on effective and efficient methods for engaging and teaching students of all ages in a variety of arts education environments (including but not limited to music, art, theater, and dance). Calling upon content knowledge and skills in arts education fields, students will be introduced to established and innovative teaching techniques that favor the advancement of student learner through shaping of the learning environment. Emphases will include current trends and research-based practices, diversity among learners, implementation of novel and efficient techniques, observation and analysis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
MUED 5661. Teaching Students with Special Needs. 3 Credit Hours.
For MPC graduate music education majors. Advanced exploration and analysis of the characteristics of exceptional children and the implications of these characteristics for music education. A variety of music materials especially designed or adaptable for teaching music to handicapped children discussed in terms of their practical use for classroom instruction.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Repeatability: This course may not be repeated for additional credits.

MUED 5665. Music Learning and Development. 3 Credit Hours.
For MPC graduate music education majors. Advanced exploration and analysis of how learners develop and how individual learners' needs affect music learning to inform teachers how to teach. Preservice music teachers study music development from the learners' perspective and begin to process ways in which music learning theories, approaches, processes, and methods can guide learners' development. NOTE: Includes field observations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Education.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Repeatability: This course may not be repeated for additional credits.

MUED 5667. Teaching Instrumental Music to Inclusive Populations (TIMIP). 3 Credit Hours.
For MPC graduate music education majors. For the prospective teacher of instrumental music in the elementary and secondary schools, this advanced synthesis of all previous work in instrumental music courses will emphasize: efficient rehearsal and teaching techniques for small and large group settings; developing musical and technical skills of instrumental music students; recruiting; repertoire; programming; performance issues; evaluation; administration.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Repeatability: This course may not be repeated for additional credits.

MUED 5668. Student Teaching Seminar. 3 Credit Hours.
Seminar for MPC graduate music education majors enrolled in Music Education 5689 and/or Music Education 5789. NOTE: Special authorization only.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Education.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Repeatability: This course may not be repeated for additional credits.

MUED 5669. Teaching Choral Music to Inclusive Populations (TCMIP). 3 Credit Hours.
For MPC graduate music education majors. Advanced exploration and analysis for the prospective teacher of vocal music; solutions for problems of audition procedures, development of musical skills within the choral rehearsal, repertoire and programming, voice classes, performance planning and execution, the changing voice, and needs of special learners.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Education.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Repeatability: This course may not be repeated for additional credits.
MUED 5673. Jazz Education - Instrumental. 2 Credit Hours.
For MPC graduate music education majors. Advanced survey and analysis of strategies for the development of the instrumental jazz ensemble in secondary school settings. Topics will include (but not be limited to): instrumentation, rehearsal techniques, literature, listening, improvisation, styles, rhythm, articulation, rhythm section, and programming. NOTE: Special authorization only.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Education.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Repeatability: This course may not be repeated for additional credits.

MUED 5674. Jazz Education - Vocal. 2 Credit Hours.
For MPC graduate music education majors. Advanced survey and analysis of the strategies for the development of the vocal jazz ensemble in secondary school settings. Topics will include (but not be limited to): Swing and show choirs, balancing voices, rehearsal techniques, literature, listening, improvisation, styles, rhythm, articulation, rhythm section, and programming. NOTE: Special authorization only.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Education.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Repeatability: This course may not be repeated for additional credits.

MUED 5676. Audiation and Music Learning. 3 Credit Hours.
The course covers music learning theory, music aptitude and achievement, sequential acquisition of tonal and rhythm skill and content, tonal and rhythm solfeggio, learning sequence activities, whole-part-whole organization of curriculum and teaching, and satisfies music learning theory requirements for completion of Professional Development Level 1 by the Gordon Institute for Music Learning.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MUED 5677. Music Learning Theory in Context: Early Childhood, Instrumental, and General Music Applications. 3 Credit Hours.
The course covers contextual and practical application techniques for music learning theory in early childhood, instrumental and general music settings. Students will learn about informal guidance and formal instruction in music, develop musicianship and composition and improvisation skills in a variety of tonalities and meters, learn to use movement in music instructional settings, learn and teach an MLT based rote song teaching and evaluation procedure, teach learning sequence activities relevant to specific genres, peer-teach, and develop classroom activities based on MLT and audiation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MUED 5689. Student Teaching - Elementary. 3 Credit Hours.
Field experience in elementary grades for MPC graduate music education majors. NOTE: Special authorization only.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Education.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Repeatability: This course may be repeated for additional credit.

MUED 5696. Teaching General Music to Inclusive Populations (TGMIP). 3 Credit Hours.
For MPC graduate music education majors. Advanced exploration and analysis of the principles, practices, and materials central to the general music program in elementary and secondary education. NOTE: Special authorization only. Includes Field Experience.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Education.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Repeatability: This course may not be repeated for additional credits.
MUED 5789. Student Teaching - Secondary. 3 Credit Hours.
Field experience in secondary grades for MPC graduate music education majors.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Education.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Repeatability: This course may be repeated for additional credit.

MUED 8325. Apprenticeship in Music Therapy Education and Supervision II. 1 Credit Hour.
Faculty provide doctoral students with close supervision as they assist in the teaching and supervision of Music Therapy students.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUED 8425. Apprenticeship in Music Therapy Education and Supervision III. 1 Credit Hour.
Faculty provide doctoral students with close supervision as they assist in the teaching and supervision of Music Therapy students.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUED 8525. Apprenticeship in Music Therapy Education and Supervision IV. 1 Credit Hour.
Faculty provide doctoral students with close supervision as they assist in the teaching and supervision of Music Therapy students.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUED 8566. Qualitative Res: Mus Ed. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUED 8601. Qualitative Research in Music Therapy. 1 to 9 Credit Hour.
Students learn to conceive, design, and write a qualitative research study in Music Therapy.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUED 8602. Quantitative Research in Music Therapy. 1 to 9 Credit Hour.
Students learn to conceive, design, and write a quantitative research study in Music Therapy.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.
MUED 8603. Theories of Music Psychotherapy. 1 to 9 Credit Hour.
An examination of how Music Psychotherapy is practiced within various theoretical orientations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUED 8611. Music Therapy Research. 3 Credit Hours.
An introduction to quantitative and qualitative research in Music Therapy, with emphasis on developing skills in reading and evaluating studies.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUED 8612. Music Therapy Foundation. 3 Credit Hours.
An examination of musicological, philosophical, psychological, biological, and sociological foundations for Music Therapy.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUED 8613. Songs in Psychotherapy. 2 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUED 8614. Guided Imagery and Music I. 3 Credit Hours.
An introduction to GIM through demonstrations, lectures, and personal experiences. Topics include the role of music, relaxation procedures, types of imagery, and basic guiding techniques.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUED 8615. Adv Mus Thrpy Clin Trng. 1 to 3 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUED 8616. MT Foundations. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUED 8617. Multicultural Music Therapy. 2 to 3 Credit Hours.
An examination of the specific needs of multicultural clients, with training in specialized Music Therapy approaches and methods. Emphasis is given to the acquisition of skills in ethnic musical forms and multicultural empathy.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.
MUED 8618. Music in Medicine. 1 to 9 Credit Hour.
An examination of research and clinical practice concerning the mind-body-social-spirit relationships and the acquisition of knowledge and skill in Music Therapy approaches to promote biopsychosocial health.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUED 8619. Music Therapy Education and Training. 1 to 2 Credit Hour.
An introduction to accreditation and approval, curriculum planning, syllabus design, teaching, academic supervision, and the challenges presented in each of these areas of Music Therapy.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUED 8621. Music Therapy Ethics. 2 Credit Hours.
An examination of ethical issues in Music Therapy practice, research, education, and supervision.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUED 8622. Res Mus Psychotherapy. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUED 8623. Research in Music Psychotherapy. 3 Credit Hours.
For doctoral students only. A critical examination of foundational, process-oriented, and efficacy research on the use of music in psychotherapy.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUED 8624. Research in Music Medicine. 3 Credit Hours.
For doctoral students only. A critical examination of foundational and efficacy research on the use of music in medicine.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUED 8625. Apprenticeship in Music Therapy Education and Supervision. 1 Credit Hour.
Faculty provide doctoral students with close supervision as they assist in the teaching and supervision of Music Therapy students.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.
MUED 8626. Models of Clinical Supervision in Music Therapy. 2 Credit Hours.
An in-depth examination of various models of Music Therapy supervision appropriate for pre-professional and professional clinical work, including psychodynamic, humanistic, and behavioral models. Emphasis is given to the use of Music and Music Therapy techniques as forms of supervision.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUED 8627. Apprentice MT Ed/Slp II. 1 to 3 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUED 8650. Special Topics in Music Education. 3 Credit Hours.
This course offers students a granular look at a number of specialized topics in music education. Its content varies. Areas of study can include, but are not limited to: administration, arts education, early childhood, inclusion and diversity, performance development, current trends, implementing and applying research, creativity, and music industry.

Department Restrictions: Must be enrolled in one of the following Departments: Education: College of Ed, Music: Boyer College, Music: Vocal Arts, Music: Keyboard, Music: Instrumental, Music: Education, Music: Studies.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College, Education.

Repeatability: This course may be repeated for additional credit.

MUED 8651. Psych Music Lrn & Behav. 3 Credit Hours.
Simple acoustic principles and the physiology of hearing lay groundwork for investigation into issues of perception, measurement, and performance of rhythm, melody, and harmony. Aural acquisition of musical information and understanding notation follow. Human propensities in preference, affect, and aesthetics are covered, as well as extra-musical objectives as an outcome of musical training.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Education.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUED 8652. Measurement and Evaluation in Music. 3 Credit Hours.
Measurement and evaluation appropriate to music study are reviewed. A primary focus is the development of appropriate and effective measurement tools for use in music instructional programs. The value, delivery, use, and interpretation of tests of musical behavior are examined. Technical aspects of measurement are given necessary pragmatic consideration.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Education.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUED 8653. Learning Theory in Music. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUED 8654. Adv Methods Instrum MUED. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUED 8655. Quantitative Res: Mus Ed. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Repeatability: This course may not be repeated for additional credits.

MUED 8656. Academic Writing Skills. 3 Credit Hours.
The focus is on honing writing skills toward the development of skills necessary for successful completion of a thesis, monograph, or dissertation. Topics include common writing flaws, identifying systematic flaws in the student's writing, improvement of sentence and paragraph composition, development of appreciation for revision, and practice in oral presentation.
Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Education.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Repeatability: This course may not be repeated for additional credits.

MUED 8657. Create/Devel a Rock Band. 2 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

MUED 8658. Res 21st C Prac Gen Mus. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Repeatability: This course may not be repeated for additional credits.

MUED 8659. Select/Rehearse Band Lit. 2 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

MUED 8660. Music Education in a New Key. 2 to 3 Credit Hours.
As the world evolves, music educators look to improve ways in which the musical needs of students and the community are met. This course targets innovation and tradition. Students will explore contemporary thought and practice in the field as well as revisit effective and established traditions, towards the strengthening of personal and professional goals. Topics may include but are not limited to: Collaboration, Creation, Performance, Musical Responses, Community Connections, Curiosities and Inquiry, Social Interactions.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Repeatability: This course may be repeated for additional credit.

MUED 8661. Research in Music Education. 3 Credit Hours.
Study of research design, quantitative and qualitative analysis, and modern investigative techniques in Music and Music Education. Required of all candidates for the Master of Music degree majoring in Music Education. Strongly recommended for Ph.D. candidates in Music Education.
Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Education.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Repeatability: This course may not be repeated for additional credits.

MUED 8662. Informal Music Learning. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Repeatability: This course may not be repeated for additional credits.

MUED 8663. Interactive Multimedia I. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Repeatability: This course may not be repeated for additional credits.
MUED 8664. Interactiv Multimedia II. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUED 8665. Jazz Instrumental Education. 3 Credit Hours.
Focus will be upon jazz instrumental education in jazz ensemble rehearsals and jazz composition/arranging courses. Emphasis on forming jazz combos and small jazz ensembles; devising efficient rehearsals for various instrument groupings; composing and arranging selections to meet the needs of jazz ensemble instrumentation; and experiencing and evaluating methods of learning in jazz.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUED 8666. Qualitative Research: Music Education. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUED 8667. Music and the Mind: Understanding Music Perception and Cognition. 3 Credit Hours.
The burgeoning field of neuroscience provides the opportunity for greater understanding of human perception and cognition in many areas of learning. This course focuses on the intersection of the brain and music as revealed through current research. Topics may include (but are not limited to): emotion, memory, cognition, language, music skills development, aesthetics, and well-being.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MUED 8668. History and Philosophy of Music Education. 3 Credit Hours.
The purpose of this course is to synthesize diverse viewpoints regarding the history and philosophy of American music education. Students will analyze philosophical writings that have guided the decision-making of individuals and groups regarding why, what, and how music is taught in the public schools. Students will also gain facility with historical movements and educational policies as a contextual lens toward participating in future music education practices with regard to curriculum, instruction, and assessment.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUED 8670. Special Topics: Instrumental Music Education. 1 to 3 Credit Hour.
For the creative and innovative graduate music education student. A synthesis of previous work in instrumental and vocal music courses, composition/arranging courses, and chamber rehearsals. Emphasis on forming combos and small ensembles of contemporary musical styles; devising an efficient rehearsal for various instrument groupings; developing minor instrument performance skills; composing and arranging selections to meet the needs of ensemble instrumentation; and experiencing and evaluating methods of informal learning in music.

Department Restrictions: Must be enrolled in one of the following Departments: Music:Education.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUED 8671. Sociology of Music Education. 3 Credit Hours.
The purpose of this course is to critically examine the interrelationship of music and society in the United States and prominent interpersonal and intergroup dynamics in music education contexts. Students will explore uses of music in school and community, music professions, and current research on the sociology of music. The goal is for students to engage with local and global social issues related to music teaching and learning.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
MUED 8672. Supervised Univ Music Tch. 1 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUED 8673. Music Tch in Higher Educ. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUED 8674. Sem Grad Music Education. 1 to 3 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUED 8675. Choral Pedagogy Seminar. 2 to 3 Credit Hours.
Choral music education and choral conducting majors will increase their understanding of current research and pedagogical systems that are directly related to teaching choral music to inclusive populations in a variety of settings. Students will be challenged to study various philosophical, pedagogical, and programmatic concepts as a basis for becoming a proficient rehearsal technician and choral scholar. Content varies from semester to semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUED 8676. Seminar in Secondary School Music Teaching. 3 Credit Hours.
Advanced study of educational practice specific to the secondary level (6-12). Seminar subject areas may include current trends in secondary education literature, formal and informal music learning, traditional and alternative ensembles, administration and leadership, classroom management, repertoire, rehearsal technique, and others.

Department Restrictions: Must be enrolled in one of the following Departments: Music:Education.
Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Education.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MUED 8677. Seminar in Elementary School Music Teaching. 3 Credit Hours.
Advanced study of educational practice specific to the elementary level (P-5). Seminar subject areas may include current trends in elementary education literature, formal and informal music learning, ensembles, musical development, diversity, classroom management, repertoire, rehearsal technique, and others.

Department Restrictions: Must be enrolled in one of the following Departments: Music:Education.
Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Education.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MUED 8680. Contemporary Problems in Music Education: Individual Study. 1 to 3 Credit Hour.
Study of recent trends and issues in Music Education through critical examination of research and practical application of selected techniques.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Education.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.
MUED 8690. Contemporary Problems in Music Education: Individual Study. 1 to 3 Credit Hour.
Study of recent trends and issues in Music Education through critical examination of research and practical application of selected techniques.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Education.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUED 8691. Research Seminar in Music Education. 3 Credit Hours.
Planning and execution of pre-dissertation research projects are discussed. Participants work independently and in small groups to acquire skills necessary for completion of the dissertation.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Education.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUED 8725. Apprenticeship in Music Therapy Education and Supervision V. 1 Credit Hour.
Faculty provide doctoral students with close supervision as they assist in the teaching and supervision of Music Therapy students.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUED 8825. Apprenticeship in Music Therapy Education and Supervision VI. 1 Credit Hour.
Faculty provide doctoral students with close supervision as they assist in the teaching and supervision of Music Therapy students.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUED 9601. Basic Sk: Comm/Dig Media. 2 to 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUED 9611. Theory Development in Music Therapy. 3 Credit Hours.
For doctoral students only. An examination of the nature of theory and the theorizing process in music therapy, based on a comparison of existing theories. Emphasis is given to developing a theory based on practice and/or research.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUED 9641. Music Therapy Doctoral Seminar. 1 to 3 Credit Hour.
For doctoral students only. Seminar on examining current issues in Music Therapy theory, practice, research, education, training, and supervision.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.
MUED 9642. Music Therapy Research Apprenticeship. 1 to 3 Credit Hour.
Graduate students conduct Music Therapy research under faculty supervision.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUED 9643. Music Therapy Research Apprenticeship. 1 to 3 Credit Hour.
Graduate students conduct Music Therapy research under faculty supervision.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUED 9660. Advanced Topics in Music Psychotherapy. 1 to 4 Credit Hour.
An in-depth examination of practice, research, and/or theory in areas of specialization in Music Psychotherapy.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUED 9670. Advanced Topics in Music Medicine. 1 to 4 Credit Hour.
An in-depth examination of practice, research, and/or theory in areas of specialization in Music Medicine.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUED 9680. Music Therapy: Special Topics. 1 to 9 Credit Hour.
An in-depth examination of a particular topic in Music Therapy practice, research, or theory.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUED 9687. Advanced Music Therapy Practicum. 1 to 3 Credit Hour.
Individual and group supervision of initial professional clinical work in Music Therapy.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUED 9690. Music Therapy: Special Topics. 1 to 3 Credit Hour.
An exploration of interdisciplinary topics in art, dance, music, drama and poetry therapies.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.
MUED 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
For doctoral students in Music Education readying themselves to take the Preliminary Examinations.

**Field of Study Restrictions:** Must be enrolled in one of the following Majors: Music Education.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**College Restrictions:** Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

**Repeatability:** This course may be repeated for additional credit.

MUED 9995. Master's Final Project. 1 to 3 Credit Hour.
For master's degree candidates in Music Therapy and Music Education only. Students complete the master's degree final project under faculty supervision.

**Department Restrictions:** Must be enrolled in one of the following Departments: Music:Education.
**Field of Study Restrictions:** Must be enrolled in one of the following Majors: Music Therapy, Music Education.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**College Restrictions:** Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

**Repeatability:** This course may be repeated for additional credit.

MUED 9996. Master's Thesis Music Education. 1 to 3 Credit Hour.
For master's degree candidates in Music Education only. Students complete the master's thesis under faculty supervision.

**Department Restrictions:** Must be enrolled in one of the following Departments: Music:Education.
**Field of Study Restrictions:** Must be enrolled in one of the following Majors: Music Education.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**College Restrictions:** Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

**Repeatability:** This course may be repeated for additional credit.

MUED 9998. Pre-Dissertation Research. 1 to 6 Credit Hour.
For doctoral students in Music Education who have passed the Preliminary Examinations and who do not yet have an approved dissertation proposal.

**Field of Study Restrictions:** Must be enrolled in one of the following Majors: Music Education.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**College Restrictions:** Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

**Repeatability:** This course may be repeated for additional credit.

MUED 9999. Doctoral Dissertation. 1 to 6 Credit Hour.
Registration is limited to Ph.D. candidates in Music Education. Continuous registration in the Fall and Spring semesters is required until the oral defense has been passed.

**Field of Study Restrictions:** Must be enrolled in one of the following Majors: Music Education.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**College Restrictions:** Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
**Student Attribute Restrictions:** Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

**Repeatability:** This course may be repeated for additional credit.

**Music Studies (MUST)**

**Courses**

MUST 5001. Diatonic Harm. Review. 1 Credit Hour.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**College Restrictions:** Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

**Repeatability:** This course may not be repeated for additional credits.

MUST 5002. Chromatic Harm. Review. 1 Credit Hour.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**College Restrictions:** Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

**Repeatability:** This course may not be repeated for additional credits.
MUST 5003. Counterpoint Review. 1 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 5004. Grad Aural Theory Review. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 5005. Remedial Studies in Music History. 1 to 5 Credit Hour.
Designed as remedial study in Music History for graduate students. May be taken by undergraduate Music majors with approval of the advisor and instructor. Variable scheduling.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 5105. Remedial Studies in Jazz History. 1 to 5 Credit Hour.
Designed as remedial study in Jazz History for graduate students. Variable scheduling.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 5106. Remedial Studies in Jazz Theory. 1 to 5 Credit Hour.
Designed as remedial study in Music Jazz Theory for graduate students. Variable scheduling.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 5111. Seminar in Jazz History. 3 Credit Hours.
A detailed advanced survey of issues current in the research and scholarship of Jazz History. The focus is upon the completion of an individual research project suitable for publication.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 5115. Seminar in Jazz Arranging. 3 Credit Hours.
An advanced survey of the current trends and traditional practices in jazz arranging with an emphasis upon theoretical and practical approaches and applications in small and large ensembles of various sizes and instrumental groupings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 5701. Research in Music. 3 Credit Hours.
Survey of primary reference tools, monumental editions and collected works, periodicals, histories, theoretical treatises, iconography, organology, and other bibliographic materials. Term paper written under supervision.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUST 5704. Music in History. 3 Credit Hours.
Advanced survey of the music of the Classic and Romantic periods and the 20th century.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 5705. Music in History. 3 Credit Hours.
Advanced survey of the history, style, and musical forms from antiquity through the Renaissance.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 5713. Canon and Fugue. 3 Credit Hours.
The development of technique in imitative style and an ability to construct phrase and sectional forms in canonic and fugal style.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 5716. Composing Music for Films. 3 Credit Hours.
Students use MIDI equipment and software to compose music for synchronization to film and video. Vocabulary and technology of film production and an understanding of the function of music in documentary and experimental film and video are taught. Includes lab component to develop sequencing skills.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 5719. MIDI. 3 Credit Hours.
An introduction to advanced use of MIDI technology, including basic synthesis, sound design, sequencing, and sampling.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 5720. New Music Seminar. 2 Credit Hours.
Seminar in the use of electronic devices such as cellphones, tablets, and laptop computers for music creation and performance. For students enrolled in the 4+1 option in Music Technology.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Music Technology.
Degree Restrictions: Must be enrolled in one of the following Degrees: Bachelor of Science, Master of Science.

Repeatability: This course may be repeated for additional credit.

MUST 5721. Computer Music Studio. 3 Credit Hours.
Extensive, independent compositional activity with computer synthesis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUST 5724. Printing Musical Scores and Parts. 3 Credit Hours.
This course is for music students, particularly composers, who wish to become proficient with music engraving software. At the conclusion of the course, a student should be able to create scores and parts that conform to prevailing professional standards for music engraving. Course topics include a brief history of musical notation, historical methods of music printing, computer concepts such as scalable fonts and PostScript, score layout, and formatting conventions. In addition to periodic assignments, the course requires a written mid-term examination and a final project. Additional projects required for graduate students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 5725. Computers in Music Applications. 3 Credit Hours.
Advanced theory and practice of digital synthesis of musical sound. Sampling theory, additive synthesis, and modulation synthesis are examined using models.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 5726. Computer Synthesis. 3 Credit Hours.
Certain musical applications of digital computers, including digital recording, digital sound synthesis, speech synthesis, and various real-time applications. The Csound and PureData applications are used throughout.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 5728. Advanced Audio Production. 3 Credit Hours.
Advanced Audio Production will focus on advanced skills of audio production, based on skills learned in Sound Editing (MUST 4714). Work will be done on the most common Digital Audio Workstation, Pro Tools, but is applicable to all DAWs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 5740. Seminar in Composition. 3 Credit Hours.
Guidance toward realization of individual creative concepts in music and critical evaluation of the results.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 5741. Analytical Techniques. 3 Credit Hours.
This course develops techniques for the analysis and understanding of music's expressive structure. Its primary goal is to develop greater comprehension of frequently encountered compositional forms and devices as found in great works of literature. A second goal is to provide a basic introduction to some of the current methods of theoretical analysis of music (which will probably be new or less familiar to most students). A third goal is to relate analysis to performance; in other words, how can analysis lead to a more informed performance? The course is divided into eight parts of primarily 2-week sections—I: Contrapuntal Procedures; II: Harmonic Forms; III: Schenkerian Analysis; IV: Rhythm, Meter, and Hypermeter; V: Hermeneutic Approaches; VI: Twentieth-Century Techniques and Jazz; VII: Set Theory and Twelve-Tone Theory; VIII. Grand Finale.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUST 5742. Seminar in Theoretical Analysis. 3 Credit Hours.
Investigation of theoretical and analytical problems in music, including theories of Heinrich Schenker and others as pertinent to particular faculty concerns.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 5743. Seminar in Stylistic Analysis. 3 Credit Hours.
Advanced study of compositional techniques, composers, analytical techniques, and/or genres. Seminar subject areas may include Bartok's theory and practice, Stravinsky's Russian Period, Analytical Techniques, Lied, Analysis of Opera, Mozart's Piano Concerti, Music of Debussy and Messaien, current trends in analysis, American Neo-classicism, serialists, and others.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 5744. Seminar in Stylistic Analysis. 3 Credit Hours.
Advanced study of compositional techniques, composers, analytical techniques, and/or genres. Seminar subject areas may include Bartok's theory and practice, Stravinsky's Russian Period, Analytical Techniques, Lied, Analysis of Opera, Mozart's Piano Concerti, Music of Debussy and Messaien, current trends in analysis, American Neo-classicism, serialists, and others.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 5745. Seminar in Stylistic Analysis. 3 Credit Hours.
Advanced study of compositional techniques, composers, analytical techniques, and/or genres. Seminar subject areas may include Bartok's theory and practice, Stravinsky's Russian Period, Analytical Techniques, Lied, Analysis of Opera, Mozart's Piano Concerti, Music of Debussy and Messaien, current trends in analysis, American Neo-classicism, serialists, and others.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 5746. Seminar in Stylistic Analysis. 3 Credit Hours.
Advanced study of compositional techniques, composers, analytical techniques, and/or genres. Seminar subject areas may include Bartok's theory and practice, Stravinsky's Russian Period, Analytical Techniques, Lied, Analysis of Opera, Mozart's Piano Concerti, Music of Debussy and Messaien, current trends in analysis, American Neo-classicism, serialists, and others.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 5749. Current Topics in Musicology and Theory. 3 Credit Hours.
A detailed survey of issues driving current research in musicology and music theory. A required foundation course for graduate students in musicology/theory. Current Topics is also open to other graduate students with an interest in these disciplines. Although the course begins with a brief history of these two disciplines, the emphasis for most of the semester is on the various methodologies and issues now in circulation. The conclusion of the course focuses on individual research projects, where students begin an intense study of an area of interest to them. This study culminates in the writing of a proposal, suitable to form the basis of a thesis paper or publishable research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.
MUST 5754. Music in the Classical Period. 3 Credit Hours.
Examination of stylistic trends and representative works of pre-classic composers; detailed study of Haydn and Mozart.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 5755. Music in the Romantic Period. 3 Credit Hours.
An examination of music from the first half of the 19th century in the context of new social conditions, literary Romanticism, bourgeois audiences, and the changing role of the artist.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 5756. Music in the Twentieth Century 1900-1945. 3 Credit Hours.
An examination of stylistic trends in vocal and instrumental music composed from 1900 through World War II.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 5762. Music Technology. 3 Credit Hours.
Advanced exploration of hardware and software that can be used to create, teach, and interact with music. Provides systematic, hands-on applications of computer hardware and software to music-specific activities and tasks, including audio editing, music notation, and multimedia presentations. The Final Project demonstrates the student's ability to create and store on CD-ROM and/or DVD a complete musical project using a variety of file formats, and audio and video production software.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 5763. Analog and Modular Sound Synthesis. 3 Credit Hours.
This class examines the history and techniques of making music with analog and modular synthesizers. Students gain sound sculpting and composition skills using several analog and modular synthesizers. Skills include learning how the modules in an analog synthesizer work and can be linked together and into a larger system to produce a vast palette of timbres. Students also develop an ability to recognize different analog synthesis techniques by ear, and compose several short pieces of music using sounds they create. Students acquire an understanding of how analog synthesizers are used in and have shaped many musical genres.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 5764. Scoring for Film and Digital Media. 3 Credit Hours.
Students will learn the aesthetics, terminology, procedures, and technical aspects of scoring for the visual medium. They will develop an understanding of the software used to synchronize original music to film and video, including MIDI, sample libraries, and sequencing. Students will complete projects that focus on a broad range of techniques, such as spotting, click tracks, understanding dramatic narrative, and scoring under dialogue. Further understanding of scoring techniques will occur through analysis of significant examples from the film music literature. Students will gain a fundamental understanding of the film industry, including how to identify and secure opportunities for scoring, the basics of how to approach the logistics of a feature-length film, budgeting, and the personnel involved in projects large and small. The role of music in other visual media, such as video games, theatrical production, and interactive media, will be briefly explored.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUST 5765. Scoring and Audio Design for Video Games. 3 Credit Hours.
Students gain a basic understanding of composing interactive music and designing audio for video games. Students will become proficient in the software involved in this process, including a DAW, middleware, and game distribution. The vocabulary and technology of audio production are taught, as well as an understanding of the function of music in interactive media. The business skills necessary to enter and develop a successful career in game audio will be explored. The course contains a laboratory component in which students develop sequencing skills and work with synchronized animation.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**College Restrictions:** Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

**Repeatability:** This course may not be repeated for additional credits.

MUST 5773. Digital Signal Processing for Music. 3 Credit Hours.
An investigation of Digital Signal Processing for Music. This course employs lectures, demonstrations, and interactive software to enable students to understand the ways sound is represented by digital signals, and how to transform those signals through mathematical operations.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**College Restrictions:** Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

**Repeatability:** This course may not be repeated for additional credits.

MUST 5774. Hearing Music: Acoustics and Psychoacoustics of Music. 3 Credit Hours.
A seminar on the psychoacoustics of music, based partly on Perry Cook's collection of essays: "Music, Cognition and Computerized Sound." This course employs lectures and demonstrations to enable students to understand the physics of sound and the perceptual characteristics of the Human Auditory System. Taken together, acoustics and psychoacoustics provide the student with an understanding of why music has the qualities it has, and how sound makers can utilize that knowledge to be more successful in their chosen fields.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**College Restrictions:** Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

**Repeatability:** This course may not be repeated for additional credits.

MUST 5775. Seminar in Audio Software Design. 4 Credit Hours.
Students will learn advanced mathematical and programming techniques for digital audio signal processing and software design. Topics covered will include spectral audio programming, algorithmic synthesis, compiling, MIDI, OSC, mobile applications, live processing, and software architecture.

**Field of Study Restrictions:** Must be enrolled in one of the following Fields of study: Music Technology.
**Degree Restrictions:** Must be enrolled in one of the following Degrees: Bachelor of Science, Master of Science.
**College Restrictions:** Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

**Repeatability:** This course may not be repeated for additional credits.

MUST 5776. Seminar in Physical Computing and Electronic Instrument Design. 4 Credit Hours.
Students will learn the advanced concepts needed for physical computing and electronic instrument design, including basic circuitry and programming. Topics covered will include direct digital synthesis, audio input and output, MIDI, sensors, microcontrollers, and real-time control.

**Field of Study Restrictions:** Must be enrolled in one of the following Fields of study: Music Technology.
**Degree Restrictions:** Must be enrolled in one of the following Degrees: Bachelor of Science, Master of Science.
**College Restrictions:** Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

**Repeatability:** This course may not be repeated for additional credits.

MUST 8100. Jazz Ensemble. 1 Credit Hour.
Weekly rehearsals of variously-sized groups culminating in an end of semester performance. Advanced course material from the standard jazz canon and new compositions.

**Field of Study Restrictions:** Must be enrolled in one of the following Fields of study: Jazz Studies.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**College Restrictions:** Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

**Repeatability:** This course may be repeated for additional credit.
MUST 8104. Jazz Major. 3 Credit Hours.
Private lessons for graduate jazz studies majors, instrumental, vocal, composition or arranging. One-hour lesson each week. Culminates in full recital during final year of study. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Jazz Studies.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 8110. Jazz Ensemble II. 1 Credit Hour.
Weekly rehearsals culminating in an end of semester performance. Course material from the standard jazz canon and new compositions.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Jazz Studies.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 8111. Seminar in Jazz History. 3 Credit Hours.
A detailed advanced survey of issues current in the research and scholarship of Jazz History. The focus is upon the completion of an individual research project suitable for publication.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Jazz Studies.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 8112. Seminar in Jazz Improvisation. 3 Credit Hours.
An advanced survey of the current trends and traditional practices in jazz improvisation with an emphasis upon theoretical approaches and applications in small ensembles of various sizes and instrumental groupings.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Jazz Studies.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 8113. Seminar in Jazz Composition. 3 Credit Hours.
An advanced survey of the current trends and traditional practices in jazz composition with an emphasis upon theoretical and practical approaches and applications in small ensemble of various sizes and instrumental groupings.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Jazz Studies.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 8114. Jazz Major. 3 Credit Hours.
Private lessons for graduate jazz studies majors, instrumental, vocal, composition or arranging. One-hour lesson each week. Culminates in full recital during final year of study. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Jazz Studies.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 8115. Seminar in Jazz Arranging. 3 Credit Hours.
An advanced survey of the current trends and traditional practices in jazz arranging with an emphasis upon theoretical and practical approaches and applications in small and large ensembles of various sizes and instrumental groupings.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Jazz Studies.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.
MUST 8120. Special Topics in Jazz History. 1 to 3 Credit Hour.
Advanced focus upon the work of a jazz artist or composer or a particular style or period culminating in a paper suitable for publication.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 8124. Jazz Major. 3 Credit Hours.
Private lessons for graduate jazz studies majors, instrumental, vocal, composition or arranging. One-hour lesson each week. Culminates in full recital during final year of study. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Jazz Studies.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 8130. Special Topics in Jazz Theory. 1 to 3 Credit Hour.
Advanced theoretical analysis of the work of a composer or a stylistic period culminating in a paper suitable for publication.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 8140. Special Topics in Jazz Improvisation. 1 to 3 Credit Hour.
Advanced concepts of jazz improvisation for use in small ensembles of various sizes and instrumental groupings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 8150. Special Topics in Jazz Composition. 1 to 3 Credit Hour.
Advanced focus upon the development of a portfolio of jazz compositions suitable for publication.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 8160. Special Topics in Jazz Pedagogy. 1 to 3 Credit Hour.
Advanced analysis and application of current techniques and practices in jazz pedagogy.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 8170. Special Topics in the Business of Music. 1 to 3 Credit Hour.
Advanced business and entrepreneurship strategies for music performers.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 8180. Special Topics in Music. 1 to 3 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.
MUST 8184. Jazz Major (Recital). 3 Credit Hours.
Private lessons for graduate jazz studies majors, instrumental, vocal, composition or arranging. One-hour lesson each week. Culminates in full recital
during final year of study. Students are required to perform or teach private lessons outside the university, subject to availability and/or scheduling
conflicts with other Boyer courses or obligations.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Jazz Studies.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 8220. Special Topics in Jazz Voice. 2 to 3 Credit Hours.
Advanced concepts in jazz vocal practice for use in both large and small ensembles of various sizes and instrumental groupings. Course material will be
from both the standard and jazz repertoires.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 8230. Special Topics in the American Songbook. 2 to 3 Credit Hours.
Advanced concepts in vocal practice for use in both large and small ensembles of various sizes and instrumental groupings. Course material will focus
exclusively upon standard repertoire.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 8480. Special Topics in Music. 1 to 3 Credit Hour.
Special authorization required.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 8602. Intro to Ethnomusicology. 2 to 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8700. Latin American Ensemble. 0 to 1 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MUST 8701. Research in Music. 3 Credit Hours.
Survey of primary reference tools, monumental editions and collected works, periodicals, histories, theoretical treatises, iconography, organology, and
other bibliographic materials. Term paper written under supervision.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8702. Introduction to Ethnomusicology. 2 to 3 Credit Hours.
An overview of the history of ethnomusicology rather than an introduction to the specific musical practices of various countries. Focuses on the origins
of the discipline at the turn of the 20th century, various interests of ethnomusicologists over the years, and internal debates within the field about
their relative importance. Attention is given to anthropology and cultural studies on ethnomusicology since the 1970s and its growing interdisciplinary
orientation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUST 8703. Studies in Ethnomusicology. 3 Credit Hours.
Seminar focusing on issues prominent in present-day ethnomusicological research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8704. Music in History. 3 Credit Hours.
Advanced survey of the music of the Classic and Romantic periods and music of the 20th century.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8705. Music in History. 3 Credit Hours.
Advanced survey of the history, style, and musical forms from antiquity through the Renaissance.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8708. History of Opera. 2 to 3 Credit Hours.
A history of opera from 1600-1790. An expanded paper and/or project is assigned for students seeking 3 credits.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8709. History of Opera. 2 to 3 Credit Hours.
A continuation of MUSIC STUDIES 8708. An expanded paper and/or project is assigned for students seeking 3 credits.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8710. Early Music Ensemble. 1 Credit Hour.
An opportunity to perform music from medieval through preclassical times. Reproduction of original instruments, principles of performance practice in original form and as they emerge through modern efforts at reconstruction.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 8713. Canon and Fugue. 3 Credit Hours.
The development of technique in imitative style and an ability to construct phrase and sectional forms in canonic and fugal style.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8714. Contemporary Music. 3 Credit Hours.
Late 19th- through 20th-century compositional theories and practices. Includes labs and practicums.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUST 8715. Composition. 2 Credit Hours.
Original composition. Development of inventive ability through compositional modeling.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8716. Composing Music for Films. 3 Credit Hours.
Students use MIDI equipment and software to compose music for synchronization to film and video. Vocabulary and technology of film production and an understanding of the function of music in documentary and experimental film and video are taught. Includes lab component to develop sequencing skills.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8717. Composition. 2 Credit Hours.
Original composition. Development of inventive ability through performance in a compositional laboratory.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8719. MIDI. 3 Credit Hours.
An introduction to the use of MIDI technology, including basic synthesis, sound design, sequencing, and sampling.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8720. New Music Seminar. 2 Credit Hours.
Seminar in the use of electronic devices such as cellphones, tablets, and laptop computers for music creation and performance.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MUST 8721. Computer Music Studio. 3 Credit Hours.
Extensive, independent compositional activity with computer synthesis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8722. Scoring for Film and Digital Media. 3 Credit Hours.
Students will learn the aesthetics, terminology, procedures, and technical aspects of scoring for the visual medium. They will develop an understanding of the software used to synchronize original music to film and video, including MIDI, sample libraries, and sequencing. Students will complete projects that focus on a broad range of techniques, such as spotting, click tracks, understanding dramatic narrative, and scoring under dialogue. Further understanding of scoring techniques will occur through analysis of significant examples from the film music literature. Students will gain a fundamental understanding of the film industry, including how to identify and secure opportunities for scoring, the basics of how to approach the logistics of a feature-length film, budgeting, and the personnel involved in projects large and small. The role of music in other visual media, such as video games, theatrical production, and interactive media, will be briefly explored.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUST 8724. Printing Musical Scores and Parts. 3 Credit Hours.
This is course for music students, particularly composers, who wish to become proficient with music engraving software. At the conclusion of the course, a student should be able to create scores and parts that conform to prevailing professional standards for music engraving. Course topics include a brief history of musical notation, historical methods of music printing, computer concepts such as scalable fonts and PostScript, score layout, and formatting conventions. In addition to periodic assignments, the course requires a written mid-term examination and a final project. Additional projects required for graduate students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8725. Computers in Music Applications. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8726. Computer Synthesis. 3 Credit Hours.
Certain musical applications of digital computers, including digital recording, digital sound synthesis, speech synthesis, and various real-time applications. The Csound and PureData applications are used throughout.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8727. Electronic Music Composition: Practice, History, Theory. 3 Credit Hours.
The history of electro-acoustic music, which is essential to music in the 20th century. Composers who wrote for electronic instruments include Edgard Varèse, Olivier Messiaen and Paul Hindemith, the "musique concrète" school (Pierre Schaeffer, Pierre Henry, Edgard Varèse, etc.), Karlheinz Stockhausen, Gyorgi Ligeti, Luciano Berio, Milton Babbitt, John Cage, Iannis Xenakis, and Mario Davidovsky. These composers used unique and varied technologies in their music. New technologies soon crossed over into pop music, and now dominate commercial music and film. A dialogue between composers and engineers is now crucial in order to make all aspects of sound available to composers. This is available to composers, theorists, historians, and instrumentalists, who must master the extended techniques that are now an essential part of new music performance.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8728. Advanced Audio Production. 3 Credit Hours.
Advanced Audio Production will focus on advanced skills of audio production. Work will be done on the most common Digital Audio Workstation, Pro Tools, but is applicable to all DAWs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8731. The Pedagogy of Music Theory. 3 Credit Hours.
This course covers the methodologies for teaching both written and aural music theory. Course work includes a survey of current and past textbooks in music theory. In addition, the course covers how to create a syllabus, how to write a lesson plan, how to manage class time, and how to deal with different learning styles among students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUST 8737. History and Pedagogy of Musicology. 3 Credit Hours.
History and Pedagogy of Musicology studies the major figures and methodologies in the history of musicology. In addition, the course examines the growing field of pedagogical methods in play for teaching music history for both non-music majors and music majors at the undergraduate level.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**
MUST 8701|Minimum Grade of B-|May not be taken concurrently.

MUST 8738. Schenkerian Analysis 1. 3 Credit Hours.
This course is an introduction to the theories of Heinrich Schenker. The course will begin with a review of harmony (Stufen theory) and counterpoint (Species) as conceived by Schenker. The primary concern of the course, however, is to learn how to create Schenkerian analyses, starting with analysis at the level of the musical phrase and culminating in the analysis of a sonata form. Weekly assignments will include analyses of excerpts drawn from 18th- and 19th-century music.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**
MUST 8738|Minimum Grade of B-|May not be taken concurrently.

MUST 8739. Schenkerian Analysis 2. 3 Credit Hours.
This course continues the study of Schenkerian Analysis first through study of his three major works: Schenker's Harmony text, his Counterpoint text, and his Free Composition. The course also includes analysis of longer forms, chromatic music, and extensions of his theory in rhythmic analysis, and music after 1900.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**
MUST 8738|Minimum Grade of B-|May not be taken concurrently.

MUST 8740. Seminar in Composition. 3 Credit Hours.
Enrollment limited to composition majors. For students enrolled in M.M. and D.M.A. programs in Composition. Guidance toward realization of individual creative concepts in music and critical evaluation of the results.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

**Repeatability:** This course may be repeated for additional credit.

MUST 8741. Analytical Techniques. 3 Credit Hours.
This course develops techniques for the analysis and understanding of music’s expressive structure. Its primary goal is to develop greater comprehension of frequently encountered compositional forms and devices as found in great works of literature. A second goal is to provide a basic introduction to some of the current methods of theoretical analysis of music (which will probably be new or less familiar to most students). A third goal is to relate analysis to performance; in other words, how can analysis lead to a more informed performance? The course is divided into eight parts of primarily 2-week sections—I: Contrapuntal Procedures; II: Harmonic Forms; III: Schenkerian Analysis; IV: Rhythm, Meter, and Hypermeter; V: Hermeneutic Approaches; VI: Twentieth-Century Techniques and Jazz; VII: Set Theory and Twelve-Tone Theory; VIII. Grand Finale.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

**Repeatability:** This course may not be repeated for additional credits.

MUST 8742. Seminar in Theoretical Analysis. 3 Credit Hours.
Investigation of theoretical and analytical problems in music, including theories of Heinrich Schenker and others as pertinent to particular faculty concerns.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

**Repeatability:** This course may be repeated for additional credit.
MUST 8743. Seminar in Stylistic Analysis. 3 Credit Hours.
Advanced study of compositional techniques, composers, analytical techniques, and/or genres. Seminar subject areas may include Bartok's theory and practice, Stravinsky's Russian Period, Analytical Techniques, Lied, Analysis of Opera, Mozart's Piano Concerti, Music of Debussy and Messaien, current trends in analysis, American Neo-classicism, serialists, and others.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 8744. Seminar in Stylistic Analysis. 3 Credit Hours.
Advanced study of compositional techniques, composers, analytical techniques, and/or genres. Seminar subject areas may include Bartok's theory and practice, Stravinsky's Russian Period, Analytical Techniques, Lied, Analysis of Opera, Mozart's Piano Concerti, Music of Debussy and Messaien, current trends in analysis, American Neo-classicism, serialists, and others.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8745. Seminar in Stylistic Analysis. 3 Credit Hours.
Advanced study of compositional techniques, composers, analytical techniques, and/or genres. Seminar subject areas may include Bartok's theory and practice, Stravinsky's Russian Period, Analytical Techniques, Lied, Analysis of Opera, Mozart's Piano Concerti, Music of Debussy and Messaien, current trends in analysis, American Neo-classicism, serialists, and others.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 8746. Seminar in Stylistic Analysis. 3 Credit Hours.
Advanced study of compositional techniques, composers, analytical techniques, and/or genres. Seminar subject areas may include Bartok's theory and practice, Stravinsky's Russian Period, Analytical Techniques, Lied, Analysis of Opera, Mozart's Piano Concerti, Music of Debussy and Messaien, current trends in analysis, American Neo-classicism, serialists, and others.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8747. Aesthetics of Music. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8748. Seminar in Post-Tonal Theory. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8749. Current Topics in Musicology and Theory. 3 Credit Hours.
A detailed survey of issues driving current research in musicology and music theory. A required foundation-course for graduate students in musicology theory. Current Topics is also open to other graduate students with an interest in these disciplines. Although the course begins with a brief history of these two disciplines, the emphasis for most of the semester is on the various methodologies and issues now in circulation. The conclusion of the course focuses on individual research projects, where students begin an intense study of an area of interest to them. This study culminates in the writing of a proposal, suitable to form the basis of a thesis paper or publishable research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.
MUST 8751. Singing on Record. 2 to 3 Credit Hours.
A survey of the most notable recorded vocal performances. Emphasis is on vocal categories, repertoire, the operatic career, changing vocal styles, performance traditions, and vocal practices throughout the decades.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8752. Studies in Renaissance Music. 3 Credit Hours.
Selected topics from sacred and secular polyphony and early instrumental music.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8753. Music in the Baroque Era: Seventeenth Century. 3 Credit Hours.
A study of the major stylistic development in the instrumental and vocal music from 1600 to 1700.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8754. Music in the Classical Period. 3 Credit Hours.
Examination of stylistic trends and representative works of pre-classic composers; detailed study of Haydn and Mozart.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8755. Music in the Romantic Period I. 3 Credit Hours.
An examination of music from the first half of the 19th century in the context of new social conditions, literary Romanticism, bourgeois audiences, and the changing role of the artist.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8756. Music in the 20th Century: 1900-1945. 3 Credit Hours.
An examination of stylistic trends in vocal and instrumental music composed from 1900 through World War II.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8757. Music of the Late Baroque. 3 Credit Hours.
Study of selected works: Vivaldi, Rameau, Bach, Handel, and other composers of the late Baroque period.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 8758. Sons of J.S. Bach. 3 Credit Hours.
Seminar on music composed by several sons of J.S. Bach: Carl Philipp Emanuel, Johann Christian, and Wilhelm Friedemann.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUST 8759. Trad/Pop Mus of Latin Am. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Repeatability: This course may not be repeated for additional credits.

MUST 8761. Nineteenth-Century Program Music. 3 Credit Hours.
A study of the development of instrumental program music in the 19th century. Readings, analysis and individual research are required.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Repeatability: This course may not be repeated for additional credits.

MUST 8762. Music Technology. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Repeatability: This course may not be repeated for additional credits.

MUST 8763. Studies in Performance Practice. 3 Credit Hours.
An exploration of major issues surrounding the performance of instrumental and vocal music from 1600 to the early 20th century. Through the study of historical treatises and tutors, modern secondary literature, recordings, and the music itself, this seminar seeks to broaden the range of performance options available to contemporary performers interested in creating historically informed interpretations.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Repeatability: This course may not be repeated for additional credits.

MUST 8764. Studies in Performance Practice. 3 Credit Hours.
A continuation of Studies in Performance Practice 8763.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Repeatability: This course may not be repeated for additional credits.

MUST 8765. Late Nineteenth-Century Russian Music. 3 Credit Hours.
The Russian, Post-Wagnerian tradition in the music of Tchaikovsky and Rachmaninoff. Genres include symphony, concerto, song, and piano music.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Repeatability: This course may not be repeated for additional credits.

MUST 8766. Music of the Caribbean. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Repeatability: This course may not be repeated for additional credits.

MUST 8767. Nineteenth Century Piano Music. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Repeatability: This course may not be repeated for additional credits.

MUST 8768. Renaissance Performance Practice. 3 Credit Hours.
Problems confronting performers of both vocal and instrumental music (ca. 1450-1600): improvisation and ornamentation, modal theory, and music ficta.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Repeatability: This course may not be repeated for additional credits.
MUST 8769. Verdi Seminar. 3 Credit Hours.
A chronological survey of the major works of Verdi, focusing on changing styles and performance practices.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8771. Post-Tonal Theory II. 3 Credit Hours.
This course extends the studies begun in Post-Tonal Theory through readings and analysis. It is organized into 3-week sessions: 1. Explorations of Atonal Theory; 2. Explorations in Transformational Theory; 3. Explorations in Twelve-Tone Theory; 4. Explorations in Rhythm. The course concludes with student presentations and a final scholarly paper.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MUST 8749|Minimum Grade of B-|May not be taken concurrently.

MUST 8773. Digital Signal Processing for Music. 3 Credit Hours.
An investigation of Digital Signal Processing for Music. This course employs lectures, demonstrations, and interactive software to enable students to understand the ways sound is represented by digital signals, and how to transform those signals through mathematical operations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8774. Hearing Music: Acoustics and Psychoacoustics of Music. 3 Credit Hours.
A seminar on the psychoacoustics of music, based partly on Perry Cook's collection of essays: "Music, Cognition and Computerized Sound." This course employs lectures and demonstrations to enable students to understand the physics of sound and the perceptual characteristics of the Human Auditory System. Taken together, acoustics and psychoacoustics provide the student with an understanding of why music has the qualities it has, and how sound makers can utilize that knowledge to be more successful in their chosen fields.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8775. Seminar in Audio Software Design. 4 Credit Hours.
Students will learn advanced mathematical and programming techniques for digital audio signal processing and software design. Topics covered will include spectral audio programming, algorithmic synthesis, compiling, MIDI, OSC, mobile applications, live processing, and software architecture.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Music Technology.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Science.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8776. Seminar in Physical Computing and Electronic Instrument Design. 4 Credit Hours.
Students will learn the advanced concepts needed for physical computing and electronic instrument design, including basic circuitry and programming. Topics covered will include direct digital synthesis, audio input and output, MIDI, sensors, microcontrollers, and real-time control.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Music Technology.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Science.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUST 8777. American Popular Music. 3 Credit Hours.
Advanced exploration of the roots and transitions of American popular music in the 20th and early 21st centuries. Particular focus upon: cultural, political, and economic contexts; various artists, recordings, and styles; identity with regard to music (e.g. class, gender, race, ethnicity, etc.); and how popular music embodies, and even affects, these cultural tendencies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 8778. Scoring and Audio Design for Video Games. 3 Credit Hours.
Students gain an understanding of composing interactive music and designing audio for video games. Students will become proficient in the software involved in this process, including a DAW, middleware, and game distribution. The vocabulary and technology of audio production are taught, as well as an understanding of the function of music in interactive media. The business skills necessary to enter and develop a successful career in game audio will be explored. The course contains a laboratory component in which students develop sequencing skills and work with synchronized animation.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Music Technology.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Science.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 8779. Romantic Performance Practice: The Schumanns, Chopin, and Brahms. 3 Credit Hours.
This seminar will focus on historically aware interpretations of keyboard, vocal, and chamber music by the Schumanns, Chopin, and Brahms. Special attention will be paid to the roles of improvisation, dance, and earlier instruments, along with questions of tempo, articulation, and rubato. Assignments will include reading, listening, and class performance.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.

MUST 9182. Independent Study. 1 to 3 Credit Hour.
Special authorization required.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 9282. Independent Study. 1 to 3 Credit Hour.
Special authorization required.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 9701. Doctoral Seminar Analysis, Interpretation, and Performance. 3 Credit Hours.
For doctoral students only; master's with permission. An inquiry in broad context and across media into some fundamental issues of performance. Analysis, readings, discussions, performance, and critique.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may not be repeated for additional credits.
MUST 9702. Doctoral Seminar in Music Studies: Music Theory. 3 Credit Hours.
This course is a directed-research course focused on a sub-topic in the field of music theory. The course includes intensive reading and writing about that sub-topic. The course includes discussions about how to develop a working thesis (proposal), how to write an abstract, how to write a lecture, and how to develop that lecture into a seminar paper and into a publishable article.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
MUST 8701|Minimum Grade of B-|May not be taken concurrently.

MUST 9703. Doctoral Seminar in Music Studies: Music History. 3 Credit Hours.
This course is a directed-research course focused on a sub-topic in the field of music history. The course includes intensive reading and writing about that sub-topic. The course includes discussions about how to develop a working thesis (proposal), how to write an abstract, how to write a lecture, and how to develop that lecture into a seminar paper and into a publishable article.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
MUST 8701|Minimum Grade of B-|May not be taken concurrently.

MUST 9704. Doctoral Seminar in Music Studies: Music Composition. 3 Credit Hours.
This course is a directed-research course focused on a sub-topic in the field of music composition. The course includes intensive reading and writing about that sub-topic. The course includes discussions about how to develop a working thesis (proposal), how to write an abstract, how to write a lecture, and how to develop that lecture into a seminar paper and into a publishable article.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Philosophy.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
MUST 8701|Minimum Grade of B-|May not be taken concurrently.

MUST 9994. Preliminary Exam Preparation. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 9995. Final Project. 1 to 3 Credit Hour.
Under departmental approval and faculty supervision, the student will design and implement a substantial project in music technology. The project will include a written paper with supporting documentation and appropriate bibliographic references that explain the project in detail. The project and paper will require that the student demonstrate an ability to integrate and synthesize advanced technological knowledge and skills in the conceptualization and creation of the final outcome, such as a piece of software, hardware, media project, or multimedia product. Students' projects will be showcased and discussed by each student as a capstone event, open to the public. Project proposals are due to the Program Director 4 weeks prior to registration.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Music Technology.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Science.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.
MUST 9996. Final Written Project: Music Theory. 1 Credit Hour.
A minimum of one semester is required of all M.M. candidates in the Music Theory program

Field of Study Restrictions: Must be enrolled in one of the following Majors: Music Theory.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 9988. Pre-Dissertation Research. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.

Repeatability: This course may be repeated for additional credit.

MUST 9999. Dissertation/Monograph Research. 1 to 6 Credit Hour.
Dissertation research or monograph research for doctoral candidates. Dissertation/Monograph Research credit maintains the continuous enrollment as required by the University.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Music & Dance, Boyer College.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.

Neuromotor Science (NMS)

Courses

NMS 9621. Neuromotor Science 1: Neural Factors. 3 Credit Hours.
Current theories and research pertaining to the neural mechanisms underlying motor control, sensorimotor integration and motor learning will be introduced as a foundation for understanding functional movement and motor deficits. The roles of selected brain regions as they relate to different aspects of motor behavior will be discussed. Lesions studies will be presented to further demonstrate the impact of neural impairments on movement performance and motor learning. Application of neurophysiologic methods that evaluate the relationship between neural circuitry and human movement (e.g., EMG, MRI, PET, EEG, TMS) will be discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

NMS 9622. Neuromotor Science: Instrumentation. 3 Credit Hours.
Instrumentation is an introduction to electrical components and circuits, and their role in the function of laboratory instrumentation. The main goal of this class is to develop the student's competence in managing the instrumentation and the quality of resultant data for motion analyses through an understanding of data acquisition equipment that is appropriate to their chosen research area. The student will be exposed to basic electronic design of filters, amplifiers, and A/D sampling as well as selected pieces of laboratory instrumentation. The class is organized in a lecture/lab structure.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

NMS 9623. Neuromotor Science: Programming. 3 Credit Hours.
This course is designed for students with little to no programming skills to help them with a general understanding of computer hardware, software, and the interaction between the two. Factors that make the use of the computer useful to neuromotor research will be presented. Basic computer architecture and operating systems will be discussed in this class. The student will gain a basic understanding of software programming logic and structures as well as signal processing techniques for analysis of human movement data. The goal of this course is for students to gain skills in basic programming for scientific data analysis of time series data with Matlab. In addition, students will also be exposed to software packages commonly used for movement analysis such as LabView, C, Visual-3D, and OpenSIM. The class is organized in a lecture/lab structure.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
NMS 9624. Neuromotor Science 2: Mechanics and Models. 3 Credit Hours.
Application of mechanical principles to static and dynamic models of human posture and movement and of the mechanical properties of the link-segment systems and biological tissue are introduced in this course. Theoretical frameworks, computational, and statistical models (e.g., dynamical systems, equilibrium point, control theory, and Bayesian) are introduced as a basis for understanding the organization of complex movement patterns. Interpretation of the model predictions is based on both healthy individuals and those with movement deficits. The first half of the course will focus on the development of the tools necessary to conduct biomechanics research, process the data, and perform biomechanical data analysis. The second half of the course will work through common biomechanics questions related to human movement in three dimensions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

NMS 9627. Neuromotor Science 3: Cognition and Learning. 3 Credit Hours.
This course focuses on current theories and research related to cognitive and learning processes that influence motor behavior. Objectives include examination of lifespan motor development and learning, attentional mechanisms, perceptual effects on motor output, implicit and procedural memory effects on motor control, automatic compensatory responses and/or strategies following injury or disease, and the factors that influence adaptation and learning to long- and short-term changes in the body or environment.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

NMS 9653. Grantsmanship. 3 Credit Hours.
This course exposes the Ph.D. level student to the mechanisms and methods of acquiring funding for Behavioral and Somatic Science Research. Students will learn Grantsmanship - the skills required to write a grant proposal. Learning experiences consist of literature review, writing key sections of a grant application, and if applicable, subject recruitment. Class time will be divided into lectures and discussion of assignments.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

NMS 9654. Neuromotor Science: Laboratory Rotation and Seminar. 1 to 3 Credit Hour.
This course provides the student with an in-depth exposure to the laboratory methods and focus of a faculty member. Students will learn the conceptual basis for the research as well as technical skills such as instrumentation and data analyses pertinent to the areas of research that are core to the NMS program or in a cognate area of interest to the student. Two rotations (6 credit hours) are required for the Ph.D. degree students and a single rotation (3 credit hours) for the MS degree students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

NMS 9682. Neuromotor Science: Independent Study. 1 to 3 Credit Hour.
This course provides an opportunity for independent investigation and analysis of the intellectual, physical, social, psychological, and ethical bases of human movement. An independent study allows students to explore a well-defined area within Neuromotor Science and related fields in greater depth providing an opportunity for independent investigation and analyses of topics that enrich their academic and research training.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

NMS 9994. Doctoral Preliminary Exams. 1 Credit Hour.
This course supports preparation for taking the preliminary examinations in the Neuromotor Science program. To enroll, students must have completed all required coursework for the Ph.D. and obtain the approval of the Ph.D. Program Director. Students must be enrolled to take the required preliminary examinations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
Course Descriptions

NMS 9998. Dissertation Proposal. 2 Credit Hours.
This course supports preparation of the dissertation proposal. The course is required for students who have passed the preliminary examinations for their programs and who have not yet defended the dissertation proposal.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
NMS 9994|Minimum Grade of P|May not be taken concurrently.

NMS 9999. Dissertation Research. 1 to 3 Credit Hour.
This course is limited to Ph.D. candidates who have completed and defended a dissertation proposal that is filed with the Graduate School by the last day to add a course in the semester. Continuous registration in 9999 fall and spring is required until the dissertation is successfully defended.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
NMS 9994|Minimum Grade of P|May not be taken concurrently.

Neuroscience (CLA) (NSCI)

Courses

NSCI 5001. Systems and Behavioral Neuroscience. 3 Credit Hours.
The goals of this class are to expose Master's degree students to topics in systems and behavioral neuroscience. In addition, students will also be introduced to methods and techniques used for the analysis of neural and behavioral data. Through intensive instruction of systems underpinning sensory, motor, and integrative functions, as well as motivation, students will gain a thorough understanding of brain function/behavior and its neuronal correlates.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

NSCI 5002. Neurochemistry. 3 Credit Hours.
This course explores the major areas of cellular and molecular neurobiology, including cellular and subcellular components of the nervous system, neuronal excitability and molecular properties of ion channels, biochemistry of synaptic transmission, intracellular signaling, neurochemistry of learning and memory, cell injury and inflammation and psychiatric/neurodegenerative disorders. Material includes lectures, presentations and discussion of primary literature and journal articles that cover recent advances in the field. Additionally, students will get the opportunity to gain hands-on experience with some of the research methodologies used to study neurochemical processes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

NSCI 5016. Professional Development in Neuroscience. 3 Credit Hours.
This course will help prepare you for the remainder of your master's degree by providing the required laboratory and animal training, laboratory technique training, research and presentation skills training, and discussion of ethical issues in the field. The first module of this course will cover all the necessary laboratory and animal training and the second module will expose students to contemporary neuroscience techniques. The third module will provide training in research and presentation skills including how to design a research study, write a research paper and presenting your results. In the fourth module, we will discuss the ethical issues in neuroscience and consider the future challenges that may arise from the evolving study of the genetic and neurobiological determinants of behavior.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
NSCI 8007. Neuroendocrinology. 3 Credit Hours.
This course will provide an in-depth exploration of the interactions between the endocrine system and the nervous system. The role of hormones in modulating behaviors and mental processes will be covered with the following topics: sex determination and differentiation, reproduction, parental behavior, social behavior, homeostasis, biological rhythms, stress, learning and memory, and affect. Multidisciplinary approaches to understand neuroendocrine function and dysfunction from the molecular to systems level will be covered.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

NSCI 8008. Neuropsychopathology. 3 Credit Hours.
This course will provide an in-depth exploration of neuropsychopathology. Students will learn about recent advances in the understanding of the neurobiology mechanisms that underlie psychiatric disease, neurodegenerative, and neurological disorders. How available and experimental treatments for these disorders work also will be covered.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

NSCI 8009. Neuroscience Drug Discovery. 3 Credit Hours.
This course will consist of a series of didactic sessions and seminar-style discussions on topics that cover major aspects of the drug discovery process including lead/target identification, validation, preclinical pharmacology, toxicity and clinical trials. The course will also address unique challenges of research translation from preclinical to early and late phases of clinical development. Additionally, the technical and clinical aspects of biomarker validation needed to be applied to the different aspects of drug development process will be discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

NSCI 9381. Readings in Neuroscience. 1 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

NSCI 9991. Directed Research. 1 to 6 Credit Hour.
This course is intended to meet the needs of students who desire to carry on an individual investigation while working towards the Master's degree in Neuroscience.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

**Neuroscience (Medicine) (NESC)**

Courses

NESC 9999. Dissertation Writing. 1 to 6 Credit Hour.
For students who have been elevated to candidacy and are gathering data or writing their dissertation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.

**Nursing (NURS)**
Courses

**NURS 5101. Evidence Based Practice for Advanced Practice Nurses. 3 Credit Hours.**
In this course theories, concepts, and research methods relevant to the review, analysis, synthesis, and application of scientific evidence to advanced nursing practice and health care delivery and outcomes will be explored through a patient- and population-centered lens. Epistemological and philosophical frameworks are used to guide the assessment of plausible alternatives to current clinical practice in context of the available evidence and the selection of translational designs to disseminate research findings into practice.

**Department Restrictions:** Must be enrolled in one of the following Departments: CPH:Nursing.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Co-requisites:** NURS 8101.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**
EPBI 5002 [Minimum Grade of B-] May not be taken concurrently.

**NURS 5401. Advanced Physiology and Pathophysiology. 4 Credit Hours.**
A systems approach is used to review normal physiology and analyze selected acute and chronic pathophysiologic states across the life span to provide the scientific rationale for safe and effective advanced nursing practice. Concepts regarding health and illness, normal control and compensatory systems, and subsystem-specific deviations are presented and analyzed. Emphasis is placed on prevalent acute and chronic conditions. Critical thinking and clinical judgment and decision-making skills are further developed through focused study of select disease conditions that emphasizes selection and interpretation of pertinent diagnostics, identification of typical and atypical signs and symptoms, use of appropriate assessment strategies and selection of appropriate therapeutics.

**College Restrictions:** Must be enrolled in one of the following Colleges: College of Public Health.

**Co-requisites:** NURS 5402.

**Repeatability:** This course may not be repeated for additional credits.

**NURS 5402. Pharmacotherapeutics for Advanced Practice Nursing. 4 Credit Hours.**
This course focuses on developing a knowledge base for safe, cost-effective, and responsible prescriptive practice by the advanced practice nurse guided by principles of pharmacokinetics, pharmacotherapeutics, pharmacodynamics, pharmacogenetics, and pathopharmacology. The course builds upon the evidence base as well as the educational foundations of pharmacology and advanced pathophysiology to inform prescribing across the lifespan, while incorporating a holistic, person-centered approach to medication management. Economic and ethical issues in pharmacological management are reviewed, with particular attention to the needs of underserved populations. Knowledge integration and application to clinical situations is assessed via interactive case studies and simulation.

**College Restrictions:** Must be enrolled in one of the following Colleges: College of Public Health.

**Co-requisites:** NURS 5401.

**Repeatability:** This course may not be repeated for additional credits.

**NURS 5501. Theories for Advanced Practice Nursing of Families and Individuals. 3 Credit Hours.**
Advanced Practice Nursing students in this course will gain an understanding of families and current family theories (e.g., systems theory, developmental, communication, and stress theories) in detail. They will examine the interaction of family structure, function, traits, processes, and health for diverse families using a life-cycle approach. Case studies will focus on individuals, families, and communities dealing with health protection, health promotion, disease prevention, and acute and chronic illnesses. Students will plan assessments and empirically-based interventions for diverse, traditionally underserved families. Students will have the opportunity to present their application of a specific family theory to a selected clinical situation.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.
NURS 5552. Clinical Assessment and Diagnosis in Advanced Practice Nursing. 4 Credit Hours.
This theory and clinical course builds upon scientific underpinnings to enable the learner to develop a holistic approach to culturally sensitive health assessment including health-related behaviors across the life span. In transitioning from a systems to an advanced regional examination approach, the learner begins to synthesize data to develop diagnostic reasoning. Psychomotor and cognitive components are integrated through classroom, laboratory, and clinical experiences.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
NURS 5553|Minimum Grade of B-|May not be taken concurrently.

NURS 5553. Pathophysiology for Advanced Nursing Practice. 3 Credit Hours.
A systems approach is used to analyze selected acute and chronic pathophysiologic states across the life span in order to provide the scientific rationale for advanced nursing practice. Concepts regarding health and illness, normal control and compensatory systems, and subsystem-specific deviations are presented and analyzed. Emphasis is placed on those major acute and chronic disorders that are most prevalent, in terms of morbidity and mortality, in the U.S. population.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

NURS 5557. Pharmacology for Advanced Nursing Practice. 3 Credit Hours.
This course will cover selected topics in pharmacology and clinical therapeutics that will be encountered by the nurse practitioner. Material in this course will be supplemented by more specific, disease-management focused content in subsequent primary care courses. Lectures cover the basics of pharmacologic mechanisms, dose-response relationships, pharmacokinetics (in children, adults, and the elderly) and factors that alter a drug's bioavailability. Pharmacological agents include autonomic, analgesics, anti-infective drugs, and agents affecting the central nervous, endocrine, cardiovascular, respiratory, and GI systems. The implications of age on drug action will be considered. Pharmacogenomics, human drug testing, drug laws, herbal medicines, OTC drugs, and nutritional agents will be discussed. Prescribing and drug safety will be addressed with special attention to prescribing in pregnancy and lactation; the course will use a lifespan approach overall. Economic and ethical issues in pharmacological management of underserved populations will be discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
NURS 5553|Minimum Grade of C|May not be taken concurrently.

NURS 5558. Local and Global Perspectives in Population Health. 3 Credit Hours.
This course enables students to examine, utilize, and evaluate social determinants of health as they apply to advanced nursing and population health. Calculating and interpreting measurements are used to assess public health status and risk. Experimental and nonexperimental study designs are analyzed, as are issues of data interpretation. Key features of screening tools and principles of creating effective screening programs are examined. These principles are utilized in examining infectious and non-infectious diseases and determinants of health of aggregate populations. Social, environmental, occupational, and biological determinants of health are explored to create health policy from the local to global levels. Students also have the opportunity to incorporate these principles in the clinical setting.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

NURS 5901. Statistics for Evidence-Based Practice. 3 Credit Hours.
This course explores statistical methods commonly used by nurses to understand human health patterns. Students critically assess the appropriateness of various research methods and techniques for addressing research questions in the field of human health, both on the individual and aggregate level. Students learn the normal curve and other distributions, parametric and nonparametric statistics, power analysis and determination of effect, hypothesis generation and types I and II errors, and basic inferential statistical techniques. Through the use of various statistical software programs and manipulation of large health databases, students explore the research process as it affects human health patterns.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
NURS 5902. Evidence-Based Practice. 3 Credit Hours.
Advancing their knowledge of research in the delivery of health care, students explore epistemological and philosophical frameworks in relation to clinical problems. Students are challenged to critically analyze practice interventions and patterns of care employed in their clinical environments, exploring factors that may impede effective, quality health care delivery. Through guided study of evidence-based scholarship, students are supported to challenge status quo orientations to health care, imagining reconceptualized alternatives. Encouraged to explore diverse and plausible alternatives to current practices, students examine possible new or reimagined solutions supported by evidence-based findings. Students critique existing scholarship and propose translational designs to disseminate findings into practice.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
NURS 5901|Minimum Grade of C|May not be taken concurrently.

NURS 5903. Research Methods: Quantitative and Qualitative. 3 Credit Hours.
This course builds on the philosophy and logic of scientific inquiry facilitating students’ knowledge of qualitative and quantitative research methods. Students design a research proposal, advancing hypotheses requiring qualitative and/or quantitative methods. Completed studies employing one or both of these methods are evaluated for impact on health care systems and nursing practice.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(NURS 5901|Minimum Grade of C|May not be taken concurrently
AND NURS 5902|Minimum Grade of C|May not be taken concurrently)

NURS 8101. DNP Project Development I. 1 Credit Hour.
This course is the first in a series of three. Utilizing a systems or population focus, the student identifies an issue that impacts healthcare outcomes either through direct or indirect care. The PICOT question format is used to frame and answer the clinical or health care related question, guided by the evidence base. In partnership with an appointed faculty mentor the student identifies a community partner with similar interests and establishes a collaborative agreement for future project-related work to address the question of interest as applied in the community setting.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Nursing Practice.

Co-requisites: NURS 5101.

Repeatability: This course may not be repeated for additional credits.

NURS 8102. DNP Project Development II. 1 Credit Hour.
This course is the second in a series and focuses on the partnership with the identified community partner to develop and refine the Doctor of Nursing Practice (DNP) project. The student collaborates with the partner to finalize the overall project plan, design the implementation, and establish the evaluation process including identifying outcome measures. Further work on the scholarly product will continue through to the DNP Implementation course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Nursing Practice.

Co-requisites: NURS 8302.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
NURS 8101|Minimum Grade of B-|May not be taken concurrently.
NURS 8201. Health Indices of Urban Populations in Primary Health Care. 3 Credit Hours.
This course examines factors critical to the health status of diverse populations across settings, with particular emphasis on urban environments. Variables explored include, but are not limited to, the dynamically interacting systems of education, housing, architecture, transportation, health care delivery, government, economics, law, religion, and culture. The relationships among these potential influences on health status are explored within the context of class and economics as key drivers of health indices. Students engage in course requirements that generate critical analysis of environmental systems that perpetuate poor health indices, particularly among minorities. Students engage in nursing-focused case analyses, problem-based exercises, class discussion, and debates as vehicles for understanding the key constructs explicated in this course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
NURS 5901|Minimum Grade of C|May not be taken concurrently.

NURS 8204. Policy: Health Care Advocacy in Advanced Nursing Practice. 2 Credit Hours.
Health policy and the processes and procedures that inform development and implementation are analyzed to assess impact on individual and population health. Social, cultural, economic, and demographic factors are considered. Students discuss and debate principles of equity, quality care, and health promotion and illness prevention within the broad context of access, insurance and delivery of advanced practice nursing, comparing and contrasting US and international practices. The roles and responsibilities of the health care team are dissected, with a focus on collaboration and delegation as a means to achieve cost effective quality care. Nursing’s advocacy role in policy evolution is explored and evaluated.

College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health.

Repeatability: This course may not be repeated for additional credits.

NURS 8205. Organizational and Systems Leadership. 2 Credit Hours.
The leadership role of the advanced practice nurse in developing quality improvement strategies that lead to sustainable change at the organizational and systems level is explored. Students evaluate health care delivery approaches that meet current and future needs of a variety of patient populations based on scientific findings in nursing and other clinical sciences, as well as organizational, political, and economic sciences. Acquisition or refinement of political skills and systems thinking will be fostered to assist the student in developing sophisticated expertise in assessing organizations, identifying systems’ issues, and facilitating organization-wide changes in practice delivery.

College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health.

Repeatability: This course may not be repeated for additional credits.

NURS 8206. Health Economics and Business Practices in Primary Healthcare. 2 Credit Hours.
Concepts that influence quality, access, and equity are explored to assess impact on the delivery of healthcare in the US. Reimbursement systems are examined to assess the impact on care decisions made at individual, family, community, and population levels. Gaps in healthcare financing resulting in compromises in health delivery are analyzed, with alternative models of healthcare coverage explored. The integration of business and financial principles into health care delivery is evaluated. Multiple data sets are analyzed to identify variations in health outcomes and to inform the system enhancements students propose to improve outcomes.

College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health.

Repeatability: This course may not be repeated for additional credits.

NURS 8207. Advancing Health Through Information Technology. 2 Credit Hours.
Course content emphasizes the role of information technology in supporting the advanced practice nurse as healthcare provider, administrative/financial manager, client educator and researcher, in a variety of health care settings. Foundational concepts in nursing informatics, and its applications in point-of-care technology, data management and analytics, and patient safety and quality are reviewed. Emerging developments in nanotechnology, genomics, and the harnessing of social media in healthcare delivery are explored.

College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health.

Repeatability: This course may not be repeated for additional credits.
NURS 8211. Leadership and Health Policy in Clinical Nursing. 3 Credit Hours.
This course enables students to analyze institutional, local, state, regional, and national policies, processes, and procedures for their impact on individual and population health. The roles and responsibilities of members of the health care team are explored with a focus on collaboration and delegation as means to achieve cost-effective quality care. The course includes an analysis of previous, existing, and pending U.S. health policy as it impacts access, safety, quality, and efficacy of health delivery. Emphasis is placed on nursing’s advocacy role in policy evolution. Attributes of effective health policy leadership within the nursing profession are examined, with a focus on nursing’s role in the evolution of community, public, and global health policy.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(NURS 5902|Minimum Grade of C|May not be taken concurrently
AND NURS 8201|Minimum Grade of C|May not be taken concurrently)

NURS 8302. Managing Quality Initiatives Through Nursing Quality Initiatives. 3 Credit Hours.
This course focuses on improving health outcomes for individuals and populations through analysis of recommendations of various health reports and implementation of quality initiatives. Organizational systems are analyzed to identify barriers to achieving quality outcomes and develop initiatives to overcome those barriers. Analysis of practice patterns, perceived incongruence between productivity and quality, and issues of sustainability are examined. Using the principles of evidence-based practice, policy changes are advanced as alternative means of improving health outcomes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
NURS 5901|Minimum Grade of C|May not be taken concurrently.

NURS 8303. Health Economics and Information Systems in Primary Health Care. 3 Credit Hours.
Concepts determining quality, access, and equity in health care are explored as they create the context of the U.S. health care system. Reimbursement systems used in health care are examined for their impact on care decisions made at the individual, family, community, and public levels. Gaps in health care financing resulting in compromises in health delivery are analyzed, with alternative models of universal health care coverage explored. Multiple data sets are analyzed to identify variations in health outcomes. This information is used to propose systems improvements to improve outcomes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

NURS 8311. Legal and Clinical Approach in Health Care. 3 Credit Hours.
This course provides students an in-depth analysis of U.S. health care laws and regulations and the impact on access, safety, quality, and efficacy of health delivery. Students are asked to review pertinent cases affecting health care practices as well as legislation affecting the profession. Included is a study of appropriate health care practices and their connection to the law. Because of the problems discovered in the delivery of health in the Institute of Medicine’s report, “To Err is Human” (1999), a major emphasis is placed on safety in the delivery of health care. Non-nursing graduate students in the College of Health Professions and Social Work may enroll with permission of the instructor.

Department Restrictions: Must be enrolled in one of the following Departments: CPH:Nursing.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
NURS 8211|Minimum Grade of C|May not be taken concurrently.

NURS 8701. Psychopharmacology: Theory and Clinical Application. 2 Credit Hours.
This course examines theory and principles of psychopharmacology with emphasis on clinical applications to practice. Major categories of psychotropic medications will be covered. Drug to drug interactions, common side effects, adverse responses to medications, and strategies for monitoring and evaluating therapeutic response will be explored. Case studies will be used to identify diagnosis, symptom profile, and appropriate choice of psychotropic medication.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
NURS 8788. History and Philosophy of Higher Education and Nursing Education. 3 Credit Hours.
This course examines historical and current philosophies of education, which impact and shape trends in both higher education and nursing education. The history of nursing education and associated theories is studied in the context of inclusion of nursing education in higher education settings. Philosophical similarities and the differences between higher and nursing education models are examined with attention to the transition in nursing from apprenticeship to doctoral models. Issues, trends, policies, and procedures in higher education and their impact on nursing are discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

NURS 8789. Educational Technology and Approaches in Healthcare Learning Environments. 3 Credit Hours.
This course introduces a variety of educational technologies and approaches being incorporated into healthcare organizations in both the clinical services and health science academic settings. It focuses on a critical review and analysis of various technologies for clinical service and academic learning environments through interactive teaching-learning methodologies. Assignments correlate with educational technology principles and practice with particular relevance to healthcare organizations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

NURS 8801. Pedagogical Theory in Nursing Curriculum Development. 3 Credit Hours.
This foundation nursing education course introduces the learner to pedagogical theories and educational philosophies that guide the nurse in developing the educator role. In examining the curriculum design, how pedagogical theories and educational philosophies influence decisions are examined. Through this course, learners begin to understand the differences between teaching and learning, and the role of teacher and nurse. Students examine the needs of selected constituencies and how pedagogical theory and educational philosophy impact meeting those needs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

NURS 8802. Journey from Novice to Expert: Understanding the Nurse Learner. 3 Credit Hours.
This course is designed to explore creating a learner-centered environment and the role of the instructor in facilitating learning. The role of the environment on learning is explored in depth with particular attention to the student-teacher relationship. Development theories are used to explain individual differences in the learning process.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

NURS 8803. Evaluation of Learning and Instruction in Nursing Education. 3 Credit Hours.
This course is designed to help students understand the evaluation process as it relates to all aspects of the teaching-learning process. This includes the student, the instructor, the course, curriculum, and program. Students learn to develop evaluation methods to facilitate improvement in each aspect of the teaching learning process. Evaluation of the learner and instructor is examined for clinical and classroom environments. Students use the curriculum plan developed in the first two courses as the basis for several of the course assignments.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
NURS 8804. Program Evaluation and Program Improvement. 3 Credit Hours.
This course introduces students to the broad concepts of program evaluation and quality improvement in nursing education. Quality improvement and quality improvement models are examined as a mechanism to develop a performance improvement culture. The use of accreditation standards as a vehicle for program evaluation is applied in a variety of scenarios. Students learn how to select program and student outcomes and develop resources that can be used for quality improvement initiatives. The role of the nurse educator as a leader in program and performance improvement is examined.

Department Restrictions: Must be enrolled in one of the following Departments: CPH:Nursing.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Science in Nursing.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
NURS 8803|Minimum Grade of C|May be taken concurrently.

NURS 9182. Independent Study. 1 to 6 Credit Hour.
This course is an independent study arranged by a student with a faculty member who has an area of expertise consistent with the project the student wants to develop.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

NURS 9287. Primary Care of Children. 4 Credit Hours.
In this course the nurse practitioner student will learn to provide primary care to the young child, adolescent, and family. The course will focus on acute, episodic disorders with which this population commonly presents in a primary care setting. In addition to diagnosis and treatment of these disorders, the course will apply a variety of health promotion models to help children and families develop positive health behaviors. Skills to help families adapt to the changes that occur in the family unit with growth and development of the children will be incorporated into the content. The influence of community and social concerns on health will be addressed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
NURS 9887|Minimum Grade of B-|May not be taken concurrently.

NURS 9488. Transition to the Nurse Educator Role Practicum. 2 Credit Hours.
This course presents students with the opportunity to design a practical experience that is consistent with their individual career goals. Students meet with the course coordinator at the end of the preceding semester to discuss future career goals and identify the environment most conducive to meeting those goals. During the semester break, students are asked to identify the environment and preceptor willing to help the student meet those goals. The environment selected should enable the student to participate in clinical and classroom facilitation in addition to any additional responsibilities associated with the role and the environment. The course coordinator facilitates this process, but it is the student’s responsibility to design the experience. The class meets in person twice during the semester. Weekly discussions occur on-line.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
NURS 8804|Minimum Grade of B-|May not be taken concurrently.

NURS 9585. Clinical Nurse Leader Practicum. 3 Credit Hours.
This clinical course in the Clinical Nurse Leader (CNL) program is a combination of practicum and theory. The CNL student is assigned to an agency that provides the opportunity to integrate the concepts addressed throughout the program. The course includes 16 hours of clinical practicum and one hour of theory per week. During theory sessions, students discuss aspects of implementing the role of the CNL, such as effective staff teaching, evaluating learning, ethical decision making, risk reduction, and transitioning to systems thinking. This course is designed as a bridge to the CNL immersion experience.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
NURS 5552|Minimum Grade of B-|May not be taken concurrently.
NURS 9586. Clinical Nurse Leader Immersion. 3 Credit Hours.
This is the culminating experience in the Clinical Nurse Leader (CNL) program. In this course, the student is assigned to a partner agency three days per week (24 hours per week). During this immersion experience, the student serves as the CNL in that partner agency. Within that role, the student analyzes the client outcomes, develops evidence-based alternative(s) to address specific agency needs, and works with partner staff to implement sustainable practice change(s). The evidence-based practice change is presented at a student conference at the end of the semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
NURS 9585|Minimum Grade of B-|May not be taken concurrently.

NURS 9885. DNP Clinical Capstone. 3 Credit Hours.
This course facilitates students’ integration of evidence-based research and leadership within their fieldwork practicum. Through critical analysis of knowledge supportive of their practice, students progress from the role of novice provider to more sophisticated and skilled advanced practitioners. The program’s systems orientation is explicated in practice through seminars, assignments, fieldwork, and professional presentations. Working in concert with one or more fieldwork preceptors, students practice in their selected specialty track and implement complex clinical reasoning in the provision of care appropriate to the client: an individual, family, community, or the public at large. Students’ fieldwork, seminars, and course requirements culminate in nursing expertise in our culture’s evolving health care delivery system.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
(NURS 5903|Minimum Grade of B-|May not be taken concurrently
AND NURS 8302|Minimum Grade of B-|May not be taken concurrently)

NURS 9886. DNP Evidence-Based Practice Project Implementation. 3 Credit Hours.
This course is a culminating experience for students as they incorporate leadership attributes into their professional repertoire, assuming roles demanding evidence-based change in a selected field. Integrating previously acquired knowledge and skills, students demonstrate successful execution of a fieldwork project in concert with their project mentor(s). Such projects, derived from evidence-based research, evolve from needs identified in the fieldwork experience. Through faculty and mentor-guided seminars, students design and implement projects, providing their fieldwork agencies with final presentations. In cooperation with fieldwork mentors, strategic plans to integrate and evaluate project results are incorporated in final projects.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Nursing Practice.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
NURS 9885|Minimum Grade of B-|May not be taken concurrently.

NURS 9887. Primary Care of Adolescents. 4 Credit Hours.
In this course the nurse practitioner student focuses on the primary care needs of the adolescent client and client with health concerns related to the reproductive system in the classroom and at the clinical site. Normal physiologic alterations associated with reproductive health are addressed with emphasis on health promotion behaviors. Changes in reproductive health indicative of pathology are also addressed with a focus on treatment as well as health promotion. The course also addresses psychosocial issues common to adolescents and reproductive health clients in urban, underserved areas.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
(NURS 5552|Minimum Grade of B-|May not be taken concurrently
AND NURS 5557|Minimum Grade of B-|May not be taken concurrently)
NURS 9888. Primary Care of the Elderly. 4 Credit Hours.
Nurse practitioner students learn to assess, diagnose, and manage primary health care problems common in older adults seeking care in diverse health settings. The fundamental role of the interdisciplinary team is incorporated in the management of client systems through collaboration in developing a treatment plan. Preventing illness in the individual, family, and community is explored using various health promotion models. The impact of illness on the individual, family, and community is also examined. Challenges in implementing preventive health recommendations and treating acute illness in underserved urban populations are discussed. Students will complete a minimum of 120 hours of precepted clinical time in an approved primary care setting.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
NURS 9987|Minimum Grade of B-|May not be taken concurrently.

NURS 9987. Primary Care of Adults. 4 Credit Hours.
In this course, the adult and family nurse practitioner students learn to assess, diagnose, and manage common health care problems in the young/middle aged adult population. Health behavior models will be utilized to help client systems practice health promotion behaviors. There is an emphasis on collaborative and interdisciplinary practice with other members of health professions to develop treatment plans. The course incorporates research and current practice guidelines in developing an evidenced-based practice framework. The impact of culture, socioeconomic conditions, family, and community environments on health is explored.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
NURS 9887|Minimum Grade of B-|May not be taken concurrently.

NURS 9988. Transition to Practice: Advanced Practice Nurse Practicum. 1 Credit Hour.
Students will collaborate with faculty to plan career goals, personal clinical objectives, and clinical site to complete practicum. Clinical experience can be weekly or completed in blocks during a single semester for a minimum of 120 hours. Students will work with a preceptor and submit logs and clinical reports to faculty as negotiated.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
NURS 9888|Minimum Grade of B-|May not be taken concurrently.

Occupational Therapy (OTHR)

Courses

OTHR 5001. Developmental Perspectives in Occupational Therapy. 2 Credit Hours.
This course explores human development and the relation to occupational performance. A study of sensory, physical, cognitive, emotional and sociocultural aspects of human development is emphasized to analyze occupational performance. Lecture, small group, and active learning experiences enhance the analysis and synthesis of developmental perspectives with occupational therapy practice.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Co-requisites: OTHR 5014.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(OTHR 5002|Minimum Grade of B-|May not be taken concurrently)
AND (OTHR 5005|Minimum Grade of B-|May not be taken concurrently)
OTHR 5002. Theoretical Perspectives of Occupation. 2 Credit Hours.
This course will explore the meaning and purpose of human occupation. Theoretical perspectives of occupation will analyze the construction of skills, habits, roles, and occupations for individuals and populations within various social and cultural contexts. Lecture, small group, and active learning experiences enhance the analysis and synthesis of theoretical perspectives of occupation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

OTHR 5003. Group Dynamics in Occupational Therapy. 3 Credit Hours.
This course examines teams, social systems, interdepartmental relationships, and intradepartmental relationships in the health care delivery process. A combination of lecture, discussion and training is used to explore concepts and theories of interdisciplinary group process, group formation, development, and structure and their application within the context of occupational therapy. In assigned groups, students develop healthcare group protocols to monitor progress, measure outcomes, set goals, and engage in group leadership roles. Students learn to employ constructive feedback to modify and enhance their ability to function as group members and group leaders. This course affords students the opportunity to analyze and apply theories of group dynamics and current literature regarding the use of groups in occupational therapy.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
OTHR 5019|Minimum Grade of B-|May not be taken concurrently.

OTHR 5005. Neuroscience Perspectives in Occupational Therapy. 4 Credit Hours.
This course examines nervous system structures and function to analyze neurobehavioral performance. Lecture, small group, and active learning experiences enhance the analysis and synthesis of neuroscience perspectives with occupational therapy practice.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
OTHR 5005|Minimum Grade of B-|May not be taken concurrently.

OTHR 5008. Kinesiology Perspectives in Occupational Therapy. 4 Credit Hours.
This course covers the most important features of gross anatomy including detailed study of bones, muscles, blood vessels, and peripheral nerves. Emphasis is placed on functional anatomy of the extremities, head, neck, and back. Additionally, biomechanical principles of joint and muscle structure and function are applied to occupational performance. Students will learn assessments and techniques most commonly used in occupational therapy practice including goniometry of range of motion (ROM), manual muscle testing (MMT), muscle palpation, and body transfers.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
OTHR 5005|Minimum Grade of B-|May not be taken concurrently.

OTHR 5009. Entrepreneurship in Health Professions. 3 Credit Hours.
The course is designed to introduce students in health professions to entrepreneurship. The goal of the course is to demonstrate the links between knowledge, experience, skills and commercial possibilities.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

OTHR 5013. Medical Perspectives in Occupational Therapy. 3 Credit Hours.
General medicine diagnoses that are leading causes of disability in children, adolescents, adults, and older adults are defined and described. Etiology, signs, symptoms, clinical course, medical management, morbidity, and prognosis are reviewed. The influence of medical pathology on activities of daily living, life routines, social participation, and occupational performance is examined.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
OTHR 5005|Minimum Grade of B-|May not be taken concurrently.
OTHR 5014. Person-Environment Dynamics in Occupation. 1 Credit Hour.
This course will apply theoretical, developmental, and kinesiology perspectives of occupational performance within experiential learning opportunities. This course introduces the synthesizing of perspectives for designing and implementing meaningful activities and occupations for individuals or populations considering the reciprocal and dynamic nature of person-environment interactions. This course introduces activity adaptation and behavioral documentation through participation in meaningful occupation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
(OTHR 5002|Minimum Grade of B-|May not be taken concurrently)
AND (OTHR 5015|Minimum Grade of B-|May not be taken concurrently)

OTHR 5015. Human Dynamics in Occupational Therapy. 3 Credit Hours.
This course focuses on the concepts of professional development and group dynamics. An overview of the history, philosophy, ethics, and core values of the profession is discussed as orientation to professional identity. Students learn basic interpersonal and clinical skills in preparation for OT practice. Students are introduced to the principles of the interdisciplinary group process, through task and developmental analysis groups. Students will develop healthcare group protocols to monitor progress, measure outcomes, set goals, and engage and communicate in varied group roles. The course is designed to familiarize the student with the basic principles underlying group behavior, dynamics, and process within clinical contexts, and the evolution of professional role identity.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

OTHR 5019. Theoretical Perspectives in Occupational Therapy. 2 Credit Hours.
This course examines the theories that guide occupational therapy practice. Through didactic and experiential learning activities, the student analyzes activity, performance, and contextual demands, and analyzes theoretical and clinical reasoning to situations across medical, educational, and community settings for clients, populations, and organizations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
OTHR 5002|Minimum Grade of B-|May not be taken concurrently.

OTHR 5104. Occupational Therapy Practice: Mental Health. 5 Credit Hours.
This course will explore the history of mental illness in our society as well as the impact of laws on treatment and access to occupational therapy services. Students will examine and build skills in psychosocial interventions used in occupational therapy. Students will examine the theoretical basis, evaluation tools and practice application of individual, group and consultation psychosocial interventions used by occupational therapists. In small groups, students will design and implement evidence based therapeutic activity groups which are developmentally sensitive to social participation as well as adhere to a theoretical base. The role of Occupational Therapy in psychosocial intervention as it relates to public health will also be explored.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Co-requisites: OTHR 5185.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(OTHR 5001|Minimum Grade of B-|May not be taken concurrently)
AND (OTHR 5013|Minimum Grade of B-|May not be taken concurrently)
AND (OTHR 5014|Minimum Grade of B-|May not be taken concurrently)
OTHR 5105. Occupational Therapy Practice: Children & Youth. 5 Credit Hours.
This course applies occupational therapy domains and processes for therapeutic interactions with children and youth participating in medical, educational, and community contexts.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Co-requisites: OTHR 5185.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(OTHR 5001|Minimum Grade of B-|May not be taken concurrently)
AND (OTHR 5019|Minimum Grade of B-|May not be taken concurrently)

OTHR 5123. Occupational Therapy Practice: Assistive Technology. 4 Credit Hours.
Assistive technology devices and services have the potential to impact the lives of persons with disabilities, resulting in increased independence and participation in their daily activities and to support occupational performance, participation, health and well-being. This course focuses on learning about the various types of assistive technology devices and occupational therapy services including but not limited to evaluation and assessment, selection and training, procurement, legislation and funding. Students gain basic understanding, knowledge and skills of these applications as they pertain to communication, learning, and environmental issues encountered by people with disabilities including wheeled mobility and positioning issues, virtual environments, and telehealth.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Co-requisites: OTHR 5286.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
OTHR 5219|Minimum Grade of B-|May not be taken concurrently.

OTHR 5151. Research I: Methodologies for Occupational Therapy. 3 Credit Hours.
This course introduces students in the rehabilitation sciences to the concepts of evidence-based practice. Beginning with an orientation to published literature in the health professions, attention is given to techniques of searching bibliographic databases such as Medline, Cumulative Index to Nursing and Allied Health Literature, and PsychInfo. Students search, read, and analyze literature that validates current practice. The students are given the opportunity to: 1) interpret criterion-referenced and norm-referenced standardized test scores based on an understanding of sampling, normative standard and criterion scores, reliability, and validity; 2) articulate the importance of research, scholarly activities, and the continued development of a body of knowledge relevant to the profession of occupational therapy; 3) identify elements of inquiry, approaches to research and related information that is included within the framework of a research design; 4) effectively locate, interpret, and evaluate information, including the quality of research evidence; 5) compare and contrast research designs that adopt quantitative methodology, including basic descriptive, correlational, and inferential quantitative statistics; and, 6) examine underlying assumptions and implement strategies for conducting scientific inquiry based on analysis of qualitative data.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Co-requisites: OTHR 5019.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
OTHR 5002|Minimum Grade of B-|May not be taken concurrently.

OTHR 5152. Research II: Design & Proposal Development for Occupational Therapy. 1 Credit Hour.
This course includes the development of a research question, literature review, and the design of a methodology for a research problem in the field of occupational therapy by groups of students led by a research mentor. Students search bibliographic databases to identify a gap in the literature. Using the identified gap, students develop an evidence-based literature review and design a study that can address the research gap, which is implemented in the next semester. The design of the study and preparation for data collection, including obtaining IRB, establishing contact with data collection sites, and designing data collection instruments is conducted.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
OTHR 5151|Minimum Grade of B-|May not be taken concurrently.
OTHR 5161. Occupational Therapy Service Delivery & Management. 3 Credit Hours.
The principles of management in the provision of occupational therapy are considered in depth, including the principles of organizing, planning, directing, controlling, budgeting and communicating services. A variety of systems and models are examined in relation to the marketing and delivery of occupational therapy services, including medical, community, education, and social models.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**
OTHR 5003|Minimum Grade of B-|May not be taken concurrently.

OTHR 5185. Occupational Therapy Practice: Fieldwork IA. 1 Credit Hour.
Students are assigned to a variety of clinical sites with opportunities to observe clients and practitioners, practice clinical skills, and study professional behaviors. Students will interact with clients across the lifespan and with various diagnoses and disabilities. Students are supervised by an occupational therapy practitioner or a Level II occupational therapy student.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**Pre-requisites:**
(OTHR 5014|Minimum Grade of B-|May not be taken concurrently)
AND (OTHR 5008|Minimum Grade of B-|May not be taken concurrently)
AND (OTHR 5019|Minimum Grade of B-|May not be taken concurrently)

OTHR 5219. Occupational Therapy Practice: Community and Social Participation. 3 Credit Hours.
This course explores, examines, and innovates occupational therapy’s role in promoting community and social participation. The student gains an understanding of how to embed community and social participation in the therapeutic process, and distinguish the difference between therapy participation and community and social participation. Basic concepts of public health are also examined.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Co-requisites:** OTHR 5285.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**
OTHR 5105|Minimum Grade of B-|May not be taken concurrently.

OTHR 5221. Health & Wellness in the Community. 3 Credit Hours.
This course explores, examines, and innovates the occupational therapist's role in health and wellness in the community. The student learns how to promote health and wellness programs for individuals, populations, and organizations using contemporary occupational therapy and health behavior models.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**
OTHR 5219|Minimum Grade of B-|May not be taken concurrently.
OTH 5222. Occupational Therapy Practice: Adults and Older Adults. 6 Credit Hours.
This course presents an overview of the evaluation process, treatment planning, and documentation of occupational therapy services for adults/older adults across the continuum of practice settings. Students examine the theoretical basis, evaluation tools and occupational therapy interventions for adults/older adults as individuals, groups and populations. Students design evidence based interventions to promote performance in occupations based on the client's unique needs and environment. Students gain skills in the utilization of professional resources for evaluation and intervention planning. Through this process, students gain experiences in integrating theory/frames of reference, activity analysis, theories of human development, and human occupation. Students identify and apply clinical reasoning and therapeutic use of self in evaluation, delivery, and documentation of occupational therapy services. Students also have the opportunity to apply classroom knowledge and experience to the Fieldwork Level I experience that is a co-occurring course as well as to bring Fieldwork examples into the classroom for enhanced learning via discussion and assignments.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Co-requisites: OTHR 5185.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
OTHR 5019|Minimum Grade of B-|May not be taken concurrently.

OTH 5251. Research III: Implementation in Occupational Therapy. 1 Credit Hour.
This course is a follow-up to Research II: Proposal Development. Students implement the research study developed in Research II. Data collection sites are established, and data are collected, organized, analyzed, and interpreted in this course under the guidance of a research mentor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
OTHR 5152|Minimum Grade of B-|May not be taken concurrently.

OTH 5252. Research IV: Outcomes & Dissemination Promoting Occupational Therapy. 1 Credit Hour.
This course is a follow-up to Research II: Proposal Development and Research III: Implementation in Occupational Therapy. Students write a research paper that summarizes and presents the information obtained from Research II and III. This information is written as a journal manuscript and is presented to an audience of students and faculty.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
OTHR 5251|Minimum Grade of B-|May not be taken concurrently.

OTH 5285. Occupational Therapy Practice: Fieldwork IB. 1 Credit Hour.
Students are assigned to non-traditional fieldwork settings at varied community sites. They have an on-site supervisor, who is not an occupational therapist, but a leader and role model within their community setting. Students also meet weekly with a faculty fieldwork preceptor to assist with professional skill development including, but not limited to, clinical reasoning, reflection, collaboration, and problem-solving. Together they discuss the role and need of occupational therapy in their assigned sites and the factors effecting occupational performance, treatment, and meeting goals.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
OTHR 5185|Minimum Grade of P|May not be taken concurrently.

OTH 5286. Occupational Therapy Practice: Fieldwork IC. 1 Credit Hour.
Students are assigned to a variety of clinical sites with opportunities to observe clients and practitioners, practice clinical skills and professional behaviors. Students interact with clients across the lifespan and with various diagnoses and disabilities. Students are supervised by an occupational therapy practitioner or a Level II occupational therapy student.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
OTHR 5285|Minimum Grade of P|May not be taken concurrently.
OTHR 5287. Intensive Occupational Therapy Practice: Fieldwork IIA. 9 Credit Hours.
This course entails three months of full-time supervised fieldwork experience with the opportunity to treat individuals with a variety of diagnoses across the lifespan and to complete a professional reasoning master's project. Fieldwork Level II is an in-depth experiential learning experience that is critical to occupational therapy education. In supervised settings, students apply their academically acquired body of knowledge in varied settings where occupational therapy services are provided. A facilitated professional reasoning experience requires students to examine the application of theories and evidence to support evaluation and intervention in the occupational therapy process. A master's project culminates in a needs analysis and project implementation serving the needs of the clients or setting of the fieldwork experience.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
(OTHR 5123|Minimum Grade of B-|May not be taken concurrently)
AND (OTHR 5222|Minimum Grade of B-|May not be taken concurrently)
AND (OTHR 5286|Minimum Grade of P|May not be taken concurrently)

OTHR 5288. Intensive Occupational Therapy Practice: Fieldwork IIB. 9 Credit Hours.
This course entails three months of full-time supervised fieldwork experience with the opportunity to treat individuals with a variety of diagnoses across the lifespan and to complete a professional reasoning master's project. Fieldwork Level II is an in-depth experiential learning experience that is critical to occupational therapy education. In supervised settings, students apply their academically acquired body of knowledge in varied settings where occupational therapy services are provided. A facilitated professional reasoning experience requires students to examine the application of theories and evidence to support evaluation and intervention in the occupational therapy process. A master's project culminates in a needs analysis and project implementation serving the needs of the clients or setting of the fieldwork experience.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
OTHR 5287|Minimum Grade of P|May not be taken concurrently.

OTHR 5301. Professional Development and Learning in OT Education. 1 Credit Hour.
This course will explore professional development in occupational therapy practice and post-professional education. Students will develop professional and academic plans in relation to curricular development, adult learning, professional and scientific writing, and professional association engagement.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
OTHR 5019|Minimum Grade of B-|May not be taken concurrently.

OTHR 8100. Topics in Occupational Therapy Specialty. 1 to 3 Credit Hour.
Advanced knowledge from academic, administrative, and/or clinical management perspectives in occupational therapy area of specialty.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

OTHR 8121. Environmental Adaptations. 3 Credit Hours.
This course has two modules: 1) Ergonomics: the student learns the principles of ergonomics from both pre-and post-injury perspectives and will apply these principles in assessment and recommendations for people with and without disabilities. 2) Computer access and learning software address a range of computer access adaptations and software for the differently-abled client in the home, educational setting, and work environment.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
OTHR 8122. Studies in Assistive Technology. 3 Credit Hours.
The course has three modules: 1) Introduction to the range and scope of assistive technology for work, school, and play. Using a cross disability perspective, students learn about high and low tech devices and solutions for functional challenges across settings. 2) Principles and technologies for postural control, deformity, and pressure management as well as seating comfort. Types of switches and switch activation for mobility are explored. 3) Addresses major public funding sources for financing technology including medical assistance, special education, and vocational rehabilitation as well as the process for obtaining and implementing assistive technology.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

OTHR 8131. Assessment Tools for Pediatric Occupational Therapy Practice. 3 Credit Hours.
Hands-on comparison and analysis of selected assessment tools common in pediatric practice are expanded to goal setting and treatment planning.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

OTHR 8132. Occupational Therapy Intervention in Pediatrics. 3 Credit Hours.
Concepts in occupational therapy intervention in pediatrics are explored and related to treatment planning and intervention procedures in the varying contexts in which pediatric occupational therapists are employed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

OTHR 8133. Family Centered Care. 3 Credit Hours.
Students have the opportunity to explore family systems, parent/caregiver professional partnerships, family centered services, family centered teams, and interagency collaboration. They explore models of self help, empowerment, and service delivery as well as techniques for eliciting and developing family service plans and interagency networking.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

OTHR 8134. Developmental Issues in the Early Years: An Occupational Therapy Perspective. 3 Credit Hours.
Current social, cultural, legal, and economic trends affecting developmental dysfunction and occupational therapy intervention in physical, sensory, perceptual, cognitive, and psychosocial areas, from neonatal to adolescence are explored.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

OTHR 8141. Concepts of Gerontological Rehabilitation I. 3 Credit Hours.
An introduction to the fields of geriatrics and gerontology, with special emphasis given to the review of theoretical perspectives and research in gerontological rehabilitation, as well as biological, social, medical, psychological/psychiatric, and environmental factors that influence the aging process.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

OTHR 8162. Advanced Management in Health Related Service Delivery. 3 Credit Hours.
An examination of management, administrative, economic, legal, and social issues as they impact upon the provision of occupational therapy services and other health related professions. This course illuminates the unique facet health care occupies within the free market and how occupational therapy and other health related services fit within that definition. Particular emphasis will be placed upon economics and the application of these concepts in optimizing service delivery.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
OTHR 8172. Neurobiological Foundations of Sensory Integration. 3 Credit Hours.
The development of the theory of sensory integration is presented. The neurobiological foundations of the theory are examined in light of current research. The application of this information to the therapeutic intervention is addressed and demonstrated through videotapes and practice sessions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

OTHR 8173. Sensory Integration and Praxis Test (SIPT) Administration and Interpretation. 3 Credit Hours.
The standardization methods, reliability, and validity of the 17 tests of the SIPT battery are analyzed. The mechanics of each test are presented and practiced in a supervised setting. Students are individually observed in test administration. The testing of sensory processing as one aspect of sensory integration is included. The interpretation of findings, report writing and establishment of treatment goals are practiced. Gathering evidence of sensory integration and sensory processing problems based on a variety of measurement instruments is also addressed. Students are eligible for Sensory Integration International certification on completion of OTHR 8172 and OTHR 8173 and successful completion of the SIPT certification examination.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

OTHR 8174. Sensory Integration Practice Applications. 3 Credit Hours.
The application of sensory integration and sensory processing principles to occupational therapy intervention are presented. Techniques used in various settings and with various conditions are addressed and demonstrated through videotapes, clinic visits, practice sessions, and case presentations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

OTHR 8509. Leadership in the Health Professions: The Art and Science of Influence. 3 Credit Hours.
Health professionals, both clinical and academic, have the responsibility to exercise leadership in the advocacy for safe, effective, and quality health services. The accountability for this leadership is shared by all health professionals at all organizational levels. The competitive health care market presents professionals with a variety of leadership challenges. Artful and evidence-based leadership is a critical element for all those who aspire to be thought leaders/entrepreneurs in health professions education, health-related research, health policy and practices and the delivery of health care. This online course is designed to introduce students to the process of leadership: a process by which influence is exercised. A variety of active learning techniques and case study analyses will be used to explore theoretical concepts of leadership and the practical application of these concepts into daily life. An important outcome of the course is the development of a leadership portfolio that will contain items such as case studies, class presentations, and a personal leadership plan.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

OTHR 8511. Clinical Education and Fieldwork Supervision. 3 Credit Hours.
This course allows occupational therapists who have been, or who would like to be involved with clinical education, to acquire foundational knowledge within the triad of domains comprising clinical fieldwork education: teaching and learning, the mentoring/supervisory relationship, and administration. Students evaluate selected learning theories and learning style assessments, are introduced to models of supervision, and have an opportunity to apply them as part of a final course project. An administrative component provides opportunities to design site-specific goals and to explore available resources for establishing and improving clinicians’ respective fieldwork programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

OTHR 8512. Studies in Outcome Measures and Analysis. 3 Credit Hours.
This course will explore outcome measurement theories and practices, and the development of competence in the application of these concepts to evidence-based clinical practice and program management. Analysis of outcome measures is the primary focus in the second half of the course including applied statistical procedures. Outcome measurement, analysis, and program evaluation is core to the practice of Occupational Therapy. Evaluation of the results of clinical interventions and overall client reaction has long been held as a core value of occupational therapy practice. Current international health care trends reflect the concepts of participation in meaningful life experiences within the environmental and sociocultural context.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
OTHR 8513. Evidence-Based Practice and Clinical Research. 3 Credit Hours.
Students will explore the most appropriate research designs and methodologies for clinical research and apply these in their clinical practice area. They will implement the four main steps of evidence-based practice including developing a clear clinical question related to client problems, completing a search of the literature, critiquing the evidence, and applying findings to clinical practice. The implications for evidence-based practice in the profession of occupational therapy will be explored.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

OTHR 8514. Occupational Based Theories and Participation. 3 Credit Hours.
This seminar traces the historical foundations of occupation as the central paradigm of the profession. It explores literature across professions which explicate the underlying principles including foundations laid by the Occupational Behavior paradigm and the Model of Human Occupation, the Models of Occupational Adaptation, Ecology of Human Performance, and Person - Environment - Occupation in their usefulness in addressing the issues in the disabled and well populations. Principles of Occupational Science are explored and applied as a foundation for these approaches. The concept of participation is discussed as a key component of health according to the International Classification of Functioning (ICF) (World Health Organization) and a major outcome of the Occupational Therapy Practice Framework. It includes the importance, performance, and satisfaction with the involvement in life roles. The student examines environmental factors that facilitate physical access, improve psychological awareness and empowerment, and utilize advocacy for positive social change across the lifespan.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

OTHR 8901. Capstone Project. 3 Credit Hours.
Each student completes a capstone project while enrolled in the course. The capstone project reflects the goals of the program as well as the goals of the student as structured by the student's learning objectives as directed and informed by the development of a professional portfolio. The advisor recommends resources and provides guidance within a class forum. The project must be founded in evidence-based practice and either be supported by evidence in peer-reviewed literature or provide outcomes identifying the effectiveness of the project. Students start exploring the literature for their projects in the Evidence-Based Practice and Clinical Research course and explore possible outcome measures for the project if appropriate in the Studies in Outcome Measures and Analysis core course. The field study may provide opportunities for implementation of their project or clinical experiences in areas related to the project. The results of the capstone project are disseminated to the appropriate audiences through presentations, demonstrations, publications, and/or incorporation into a program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(OTHR 8512|May not be taken concurrently
AND OTHR 8513|May not be taken concurrently
AND OTHR 8514|May not be taken concurrently
AND OTHR 9089|May not be taken concurrently)

OTHR 8902. Capstone Project Inquiry. 1 Credit Hour.
This course is the first in the capstone series that focuses on identifying an occupational therapy focused clinical problem and gaining skills to comprehensively understand the literature surrounding the area of interest. The course will include the development of a capstone question and literature review for an area of development in occupational therapy. Each student will have a faculty mentor to guide the capstone development.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

Pre-requisites:
OTHR 8513|Minimum Grade of B-|May not be taken concurrently.
OTHR 8903. Capstone Project Proposal. 1 Credit Hour.
The second capstone series course will evaluate a research methodology or program development plan based on the first capstone series inquiry. Directed readings, individualized sessions, research and evaluation ethics, institutional research board protocol with a faculty advisor will culminate in a proposal presentation in preparation for the third capstone implementation course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
(OTHR 8902|Minimum Grade of B-|May not be taken concurrently)
AND (OTHR 8512|Minimum Grade of B-|May not be taken concurrently)

OTHR 8904. Capstone Project Implementation. 1 Credit Hour.
The third capstone series course will implement the capstone proposal plan based on the second capstone series course. Directed readings and individualized sessions with a faculty advisor will culminate in data collection and analysis of research or program evaluation data.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
(OTHR 8903|Minimum Grade of B-|May not be taken concurrently)
AND (OTHR 9089|Minimum Grade of B-|May not be taken concurrently)

OTHR 8905. Capstone Project. 1 Credit Hour.
Each student will complete a capstone project while enrolled in the course. The capstone project will reflect the goals of the program as well as the goals of the student as structured by the student's learning objectives as directed and informed by the development of a project proposal. The advisor and the mentor will recommend resources and provide guidance within a class forum. The project must be founded in evidence-based practice and either be supported by evidence in peer-reviewed literature or provide outcomes identifying the effectiveness of the project. Students start exploring the literature for their projects in the Evidence-based Practice and Clinical Research course and explore possible outcome measures for the project if appropriate in the Outcome Measures and Program Evaluation core course. The Field Study may provide opportunities for implementation of their project or clinical experiences in areas related to the project. The results of the capstone project will be disseminated to the appropriate audiences through presentations, demonstrations, publications and/or incorporation into a program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
OTHR 8904|Minimum Grade of B-|May not be taken concurrently.

OTHR 9082. Independent Study. 1 to 6 Credit Hour.
Focus is on furthering the student's knowledge and skills in a specialized area of individualized study.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

OTHR 9089. Field Study and Professional Portfolios. 3 Credit Hours.
This is a mentored field study experience. The field study requires the student to complete 4 weeks or 160 hours of mentored experience with experts in the area of exploration or development. The field study is directed and informed by the student's leadership objectives and are reflected in a portfolio required for degree completion. Master's clinicians, researchers, or educators will be identified by the student and the faculty advisor for the field study. The mentor does not have to be an occupational therapist although must specialize in an area related to the profession. The student along with the mentor or mentors and the faculty advisor identify specific goals for the field study related to the student's specialty practice area. The field study may focus on expanding specialty clinical skills, collecting data for the capstone project, or expanding skills related to clinical education. As part of this course, students participate in a professional portfolio seminar with a Temple faculty member where they learn the uses, types, and content of professional portfolios in order to best develop their own portfolio reflecting learning experiences within the doctoral program. Students learn to evaluate and organize the evidence of learning related to their experiences with the field study, coursework, and the capstone project. The end product of the course is the completion of at least 4 weeks or 160 hours of mentored experience, along with an extensive portfolio and e-portfolio reflecting a professional development plan.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
Oral Biology (ORBG)

Courses

ORBG 5001. Introduction to Dental Assisting. 2 Credit Hours.
Designed to provide the student with an introduction to the dental profession, the dental team and the roles and responsibilities of each member of the team, infection control procedures, sterilization and patient confidentiality. Students will also receive basic knowledge of dental terminology, anatomical structures of the oral cavity, and classification of occlusion. Emphasis is placed on applying information to the clinical setting.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ORBG 5002. Chairside Dental Assisting. 3 Credit Hours.
Designed to give the student an introduction to dental terminology, medical-dental histories, dental instruments, charting, oral evacuation, instrument transfer and procedure specific tray set-ups. Emphasis is placed on utilization of four handed dentistry skills.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ORBG 5004. Dental Radiology Lecture and Lab. 2 Credit Hours.
Designed to provide the student with basic knowledge of the principles of radiology and radiographic techniques including the principles and methods employed in the paralleling technique and radiographic interpretation. Emphasis is placed on the practice of exposing, processing, mounting, and interpreting intraoral radiographs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ORBG 5005. Dental Anatomy. 1 Credit Hour.
Designed to provide students a basic knowledge of dental terminology, anatomical structures of the oral cavity, head and neck region, classification of occlusion and oral pathology of the head and soft tissue.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ORBG 8011. Molecular Oral and Craniofacial Biology. 1 Credit Hour.
Basic concepts of physiology, biochemistry, and cell biology related to the oral cavity and craniofacial complex are explored. Topics include connective tissue biology, the role of saliva in health and disease, muscle function, taste, smell, and other sensory functions, with emphasis on current research. These seminars are designed for first-year students in postdoctoral programs in which advanced courses are combined with specialty training. The course outlines scientific information about molecular biology that contributes to our understanding of normal structures and disease processes. Wherever possible, it indicates how this information is useful or impinges on clinical dentistry. This course presupposes a broad background in the basic sciences and interrelates much recently acquired scientific information about the oral cavity that has not been attempted at the predoctoral level.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ORBG 8012. Advanced Dental Pharmacology and Therapeutics. 1 Credit Hour.
Pharmacotherapeutics of drugs most often used in dentistry, with emphasis on mechanisms, interactions, and effects of drugs used in prevention, diagnosis, and treatment of oral diseases, and drugs used for systemic diseases that may influence the progression or management of oral diseases.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ORBG 8013. Introduction to Evidence-Based Dentistry. 1 Credit Hour.
Contemporary topics and research presentations on oral and craniofacial biology.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
ORBG 8014. Clinical Anatomy of the Head and Neck. 1 Credit Hour.
Growth and development of the head and neck in relation to general gross anatomy; surgical anatomy of the head and neck region with neuroanatomic studies of cranial nerve anatomy, function and pathology; temporomandibular joint structure, function and dysfunction.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ORBG 8015. Research Methodology and Study Design. 1 Credit Hour.
Fundamental principles involved in planning, conducting, analyzing, and reporting of scientific research studies, including classification of study designs, hypothesis testing, clinical trial requirements, protocol and grant preparation, scientific writing, analysis and interpretation of data, and approaches to critical evaluation of the scientific literature.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ORBG 8016. Cases in Oral and Maxillofacial Pathology. 1 Credit Hour.
Students are taught to formulate appropriate clinical and radiographic differential diagnoses for common soft and hard tissue abnormalities of the oral and perioral region via case based discussions. Students receive instruction in the management of patients with common oral mucosal diseases. Indications for patient referral to medical or dental specialists for diagnostic evaluation or disease management are presented. Critical thinking is emphasized in case-based modules. During the case based discussions, students will be asked to describe the lesions using appropriate terminology, offer a prioritized differential diagnosis, suggest a diagnostic plan and recommend management strategies for the entities discussed. The use of a SOAP note format for documenting problem focused patient encounters in oral and maxillofacial pathology will be applied.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ORBG 8017. Oral Microbiology and Immunology. 1 Credit Hour.
Study of microorganisms and host responses important in oral microbial ecology, oral infectious processes, and the pathogenesis of dental caries, periodontal diseases, dental implant infections, endodontic infections, oral mucosal lesions, and dental focal infections at non-oral body sites.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ORBG 8018. Biostatistics. 1 Credit Hour.
Introduction to statistical analysis as it applies to biomedical research, including descriptive and inferential statistics. Topics include summarizing and displaying data, theory of measurements and distribution, significance testing, and basic concepts of probability and association.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ORBG 8019. Advanced Oral and Maxillofacial Radiology. 1 Credit Hour.
Applications of digital dental radiography, panoramic radiology, tomographic imaging for dental implants, computed tomography (CT), and magnetic resonance imaging (MRI); differential interpretations of clinically significant oral and maxillofacial lesions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

ORBG 8021. Microbiome. 3 Credit Hours.
Course will focus on the biology, ecology, and cell behaviors in the human microbiome in the whole body with a specific emphasis on the oral cavity. Course will also cover the epigenetic changes that may occur in the microbiome and the range of health issues such as obesity, infections, and risk of developing dental and oral mucosal diseases.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
ORBG 8022. Microbiome Laboratory. 2 Credit Hours.
Course will follow the Introduction to the Microbiome and focus on laboratory techniques to investigate cell signaling, quorum sensing, and genomic mapping of the microbiome.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ORBG 8023. Craniofacial Bone Biology and Maxillofacial/Dental Orthopedic Care. 2 Credit Hours.
This introductory course will review bone biology and how bone develops and remodels in orthodontic and orthopedic care.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ORBG 8024. Regeneration of Bone and Dental Hard Tissues. 1 Credit Hour.
This course will focus on dentin and bone regeneration research already being conducted at the dental school and Temple University Center for Bioengineering Research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ORBG 8025. Temporomandibular Joint Biology. 2 Credit Hours.
This course will cover the anatomy, mechanics, and function of the temporomandibular joint (TMJ) and associated muscles and ligaments. The course will also cover the dysfunctions commonly diagnosed in dental practice and how they may be manifested in the operation of the TMJ complex.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ORBG 8026. Neuroscience of Pain. 2 Credit Hours.
This course will focus on the understanding of the biology of pain and how the transmission of pain signals throughout the central and peripheral nervous system. The course will also cover the mechanisms involved in determining pain thresholds and the myriad of psychological responses to pain sensations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ORBG 8027. Biology of Drug Delivery Mechanisms. 2 Credit Hours.
This course will focus on how the oral cavity and salivary glands can be used as bioreactors that may be used to deliver drugs, genes, proteins and other molecules to treat a variety of oral and systemic conditions. The course will also cover the mechanisms involved in determining pain thresholds and the myriad of psychological responses to pain sensations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ORBG 8028. Basic and Advanced Statistical Methods. 3 Credit Hours.
An introduction to statistical theory and applied methods, including modeling techniques, to analyze dental data. The course will describe the impact of clustering effects of data points in the oral cavity; correction for design effects; methods of analysis of different dental outcomes; and appropriate statistical modeling methods useful in contemporary studies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ORBG 8029. Behavioral Change Theories and Practice. 2 Credit Hours.
This course will review and apply selected behavioral change theories in addressing common behavioral problems including addiction.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
ORBG 8031. Biomaterials. 2 Credit Hours.
Developing materials for use in dentistry and medicine is a challenging interdisciplinary process and requires an understanding of material bulk and surface properties, the various biological responses to materials, the clinical context of their use, manufacturing processes, cost, sterilization, packaging, and regulatory issues. This course is designed to introduce students to the various classes of biomaterials in use, their analysis and regulation, and examination of some of their applications in selected subspecialties of dentistry and medicine.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ORBG 8032. Practical Clinical Practice. 1 to 6 Credit Hour.
Students will be assigned as dental assistants, quality evaluators, or patient advocates in the dental school clinics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ORBG 8033. Bioethics and Critical Thinking in Dentistry. 1 Credit Hour.
This course introduces dental residents to the theoretical and practical foundations of bioethics. After an introduction to the history of bioethics and its theories, tools, and strategies for identifying and resolving ethical dilemmas, students will critically explore four key components of contemporary dental ethics: 'Ethics at the Chairside' covering topics such as confidentiality, truth telling, and cultural competency; 'Oral Health Disparities' which introduces the social determinants of health into the oral health equation; 'Research and Industry' designed to teach residents to critically think about conflicts of interest and professionalism; and 'Policy Perspectives' which covers oral health and social justice and the relationships between dental practitioners, health care reform, and oral health.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ORBG 8034. Advanced Practical Clinical Practice. 3 Credit Hours.
This is an advanced course where students will continue to be assigned as dental assistants, quality evaluators or patient advocates throughout the dental school clinic.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ORBG 8035. Introduction to Orthodontics. 2 Credit Hours.
The objective of the course is to introduce the post baccalaureate student to the processes of normal craniofacial growth and development in order to recognize and identify deviations from normal. The course emphasizes developmental dentistry, application to clinical orthodontics and postnatal craniofacial growth. Foundation knowledge in orthodontic diagnosis will be developed to allow systematic description of clinical orthodontic problems, orthodontic diagnosis and generation of an orthodontic patient clinical problem list.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ORBG 8036. Molecular Technology for Translation to the Dental Clinic. 2 Credit Hours.
Molecular Biology research holds great promise for translation to clinical Medicine and Dentistry. This course is a survey of molecular technology along with its contemporary applications to clinical diagnosis and treatment. The course consists of didactic presentations to review basic concepts and student group discussions to address the importance of new technology for clinical applications, particularly in Dentistry.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ORBG 8037. Science of Taste Sensation and Relation with Oral Conditions. 1 Credit Hour.
The "taste" is one of the chemosensory senses (taste, smell, and chemesthesis (or chemical feel, including burn from hot chili peppers and cooling from menthol)). Taste receptors convert gustatory stimuli into signals that sensory afferent fibers could transport to the brain where we have sensory experience of foods and beverages. This course is designed to give students a basic understanding of the anatomy, physiology, and biochemistry of this process. This course is intended to give students a working understanding of the taste cells and taste sensation systems important in dentistry.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
ORBG 9885. Pre-clinical Dental Experience for the Kuwaiti Program I. 6 Credit Hours.
This course is for selected post-graduate students enrolled in the Kuwaiti Program at Temple University Kornberg School of Dentistry. Prior to participation in assigned clinics, the resident’s knowledge and skills in the disciplines of direct and indirect restorative dentistry, prosthodontics, and endodontics are assessed. Needed review or update of skills and knowledge are obtained with either assigned exercises in the pre-clinic laboratory, assigned assisting in the AEGD clinic, or with assigned literature reviews.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ORBG 9886. Pre-clinical Dental Experience for the Kuwaiti Program II. 6 Credit Hours.
This course is for selected post-graduate students enrolled in the Kuwaiti Program at Temple University Kornberg School of Dentistry. Prior to participation in assigned clinics, the resident’s knowledge and skills in the disciplines of direct and indirect restorative dentistry, prosthodontics, and endodontics are assessed. Needed review or update of skills and knowledge are obtained with either assigned exercises in the pre-clinic laboratory, assigned assisting in the AEGD clinic, or with assigned literature reviews.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ORBG 9991. Research in Oral Biology. 1 to 6 Credit Hour.
Limited to M.S. in Oral Biology degree students with graduate program approval.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

ORBG 9996. Master’s Thesis in Oral Biology. 1 to 6 Credit Hour.
Limited to, and required of, M.S. in Oral Biology degree students with graduate program approval.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Painting, Drawing and Sculpture (PDS)

Courses

PDS 8011. Graduate Drawing. 3 Credit Hours.
Exploration of individualized approaches to materials and ideas as they pertain to contemporary issues in drawing. Note: This course can only be taken twice for credit.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Painting, Sculpture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

PDS 8012. Graduate Drawing II. 3 Credit Hours.
Exploration of individualized approaches to materials and ideas as they pertain to contemporary issues in drawing. Note: This course can only be taken twice for credit.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Painting, Sculpture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.
PDS 8183. Graduate Projects: Sculpture. 3 to 6 Credit Hours.
This class gives the graduate student a chance to formally meet with their peers in a group critique situation to discuss their own work or that of their classmates. Individual meetings with the instructor are another component. The class also makes visits to emerging artists' studios in New York and Philadelphia. Note: This course can only be taken twice for credit.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Painting, Sculpture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

PDS 8184. Graduate Projects: Sculpture II. 3 to 6 Credit Hours.
This class gives the graduate student a chance to formally meet with their peers in a group critique situation to discuss their own work or that of their classmates. Individual meetings with the instructor are another component. The class also makes visits to emerging artists' studios in New York and Philadelphia. Note: This course can only be taken twice for credit.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Painting, Sculpture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

PDS 8283. Graduate Projects: Painting. 3 to 6 Credit Hours.
Creative studies for the master's degree candidate whose progress is reviewed in individual and group critiques.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Painting, Sculpture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

PDS 8383. Graduate Projects: Painting and Sculpture. 3 to 6 Credit Hours.
Creative studies for the master's degree candidate whose progress is reviewed in individual and group critiques. Note: This course can only be taken twice for credit.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Painting, Sculpture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

PDS 8384. Graduate Projects: Painting and Sculpture II. 3 to 6 Credit Hours.
Creative studies for the master's degree candidate whose progress is reviewed in individual and group critiques. Note: This course can only be taken twice for credit.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Painting, Sculpture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

PDS 8483. Graduate Projects: Painting. 3 to 6 Credit Hours.
Creative studies for the master's degree candidate whose progress is reviewed in individual and group critiques.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

PDS 8501. Theories Visual Represnt. 3 Credit Hours.
Various readings in contemporary art issues or art theory are studied and discussed. Students are encouraged to bring up topics of personal interest.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.
PDS 8502. Graduate Seminar. 3 to 6 Credit Hours.
Various readings in contemporary art issues or art theory are studied and discussed. Students are encouraged to bring up topics of personal interest.
Note: This course can only be taken twice for credit.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Painting, Sculpture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

PDS 8503. Graduate Seminar: Sculpture. 3 to 6 Credit Hours.
This class gives the graduate student a chance to formally meet with their peers in a group critique situation to discuss their own work or that of their classmates. Individual meetings with the instructor are another component. The class also makes visits to emerging artists' studios in New York and Philadelphia. Note: This course can only be taken twice for credit.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Painting, Sculpture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

PDS 8504. Graduate Seminar: Painting. 3 Credit Hours.
Creative studies for the master's degree candidate whose progress is reviewed in individual and group critiques. Note: This course can only be taken twice for credit.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Painting, Sculpture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

PDS 8512. Graduate Seminar II. 3 to 6 Credit Hours.
Various readings in contemporary art issues or art theory are studied and discussed. Students are encouraged to bring up topics of personal interest.
Note: This course can only be taken twice for credit.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Painting, Sculpture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

PDS 8513. Graduate Sculpture Seminar II. 3 to 6 Credit Hours.
This class gives the graduate student a chance to formally meet with their peers in a group critique situation to discuss their own work or that of their classmates. Individual meetings with the instructor are another component. The class also makes visits to emerging artists' studios in New York and Philadelphia. Note: This course can only be taken twice for credit.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Painting, Sculpture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

PDS 8514. Graduate Painting Seminar II. 3 Credit Hours.
Creative studies for the master's degree candidate whose progress is reviewed in individual and group critiques. Note: This course can only be taken twice for credit.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Painting, Sculpture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

Pharmaceutical Sciences (PS)
Courses

PS 5451. Statistical Quality Control. 3 Credit Hours.
An introduction to statistical concepts, this course reviews control charts for variables, probability theory, control charts for attributes, and acceptance sampling systems. Class discussions include application to quality control of pharmaceutical manufacturing. Note: Not open to students who have taken the former PHARMACEUTICS 451.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PS 5471. Biotechnology: Bioprocess Basic. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PS 5477. Good Manufacturing Practices. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PS 5478. High Purity Water System. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PS 5492. Production of Sterile Products. 3 Credit Hours.
This course reviews the theory and practice involved in the preparation of sterile, injectable products, covering formulation, manufacturing, facility requirements, validation and regulatory issues. Upon completion of the course, students will develop an understanding of the routes of administration of injectable drugs and the types of injections, current formulation methods, aseptic manufacturing processes, requirements for sterile manufacturing facilities, and validation, compliance and regulatory issues. Note: Not open to students who have taken the former PHARMACEUTICS 492. Also note that prior to fall 2016, the title of PS 5492 was "Production of Sterile Parenterals."

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PS 5493. Sterilization Processes. 3 Credit Hours.
This course surveys sterilization processes used in the pharmaceutical, medical device, in-vitro diagnostic, and biotech industries. Current methods of sterilization are discussed, including thermal, gaseous, radiation, filtration, and aseptic processing. Students learn basic aspects of sterilization science as well as design, review, and audit sterilization validations and processes according to industry practices. Note: Not open to students who have taken the former PHARMACEUTICS 493.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PS 5499. Pharmaceutical Drug Dosage Forms. 3 Credit Hours.
Through an overview of drug dosage form design and manufacturing technology, principles of pharmaceutical processing and pharmaceutical dosage form design (including preformulation and biopharmaceutics) are discussed, including dosage forms such as tablets, capsules, modified dosage forms, semi-solid products, and transdermal delivery systems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PS 5501. Development of Sterile Products. 3 Credit Hours.
A study of the theory and practice in the development of parenteral products; dosage form design, formulation, solubility/physical pharmacy, excipients, assays, stability, physicochemical properties of biomolecules, delivery systems for controlled/sustained release and manufacturing methods. Note: Not open to students who have taken the former PHARMACEUTICS 501. Also note that prior to fall 2016, the title of PS 5501 was Development - Parenterals."

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
PS 5575. Regulatory Sciences. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PS 8000. Topics in Pharmaceutical Sciences. 1 to 3 Credit Hour.
Topics vary; specific topic(s) announced prior to the start of the semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PS 8001. Principles of Drug Action/Pharmacokinetics. 3 Credit Hours.
This course presents the fundamental principles of pharmacology, medicinal chemistry, and pharmacokinetics needed to understand their application in drug discovery and developmental processes. The material, presented in an integrated manner, includes the molecular mechanisms of drug action, structure-activity relationships, and the time-course of drug absorption and disposition.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PS 8002. Pharmaceutical Analysis. 3 Credit Hours.
Application of chemical analysis as it relates to pharmaceuticals and pharmaceutical manufacturing. Classical separation methods including GC, HPLC, and NMR as well as, hyphenated techniques (GC-MS & HPLC-MC) will be explored. The student will also be introduced to immunologic antibody based procedures and emerging technologies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PS 8003. Pharmaceutical Manufacturing I: Preformulation/Formulation. 3 Credit Hours.
Presents techniques relevant to all aspects of preformulation and formulation phases, as well as principles and mechanisms of incompatibility and stability testing.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PS 8004. Pharmaceutical Manufacturing II. 3 Credit Hours.
Presents processing and principles that apply to solid dosage form design and product development.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PS 8005. Pharmaceutical Biotechnology. 3 Credit Hours.
This course will introduce students to pharmaceutical biotechnology, biophysical and chemical aspects of biotech products, and their pharmaceutical formulations and clinical applications. Amino acids, proteins, peptides, and nucleotides are of particular interest. The principles of pharmaceutical formulations and physicochemical evaluation of formulations will be discussed. Pharmacokinetics of biologics and current analytical methods used in pharmaceutical biotechnology are included. In addition, the course provides an introduction to biopharmaceuticals that encompass a variety of technologies ranging from products derived from natural sources, peptides, therapeutic proteins/monoclonal antibodies, oligonucleotide therapeutics (e.g. antisense, ribozymes, aptamers, siRNA), gene therapy and special issues in drug delivery. The course will begin with a review of the molecular, biochemical, pharmaceutical underpinnings that support each of the technologies and will move into a more detailed discussion of each therapeutic technology. Preclinical and clinical development, safety, efficacy and manufacturing issues will be discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
PS 8006. Physical Pharmacy I. 3 Credit Hours.
The emphasis of this course is to form bridge between the concepts of physical pharmacy and the application of pharmaceutical sciences. Students will understand basic aspects of intermolecular forces, physical properties of solutions, ionic equilibria, buffers and isotonic solutions, solubility and partition phenomena, complexation and protein binding, reaction kinetics, mass transport, dissolution phenomena, interfacial phenomena, and rheology. Pharmaceutical applications based on the basic principles will be discussed as well. Students will be expected to be able to apply the basic concepts from this course to typical formulation and stability issues of pharmaceutical dosage forms. A previous course is physical chemistry.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PS 8007. Applied Biopharmaceutics. 3 Credit Hours.
Presents the interrelationships of the physicochemical properties of the drug and the dosage form, to the route of administration and to the rate and extent of systemic absorption. Drug absorption mechanisms, physiological and GIT constraints on dosage form transit and bioavailability, effect of formulation parameters, dissolution methodologies, in-vitro/in-vivo correlation of drug product performance as well as SUPAC, ICH and FDA guidelines on development and approval process will be covered. Formulation strategies for optimum therapeutic outcome via application of pharmaceutical sciences to the design of drug delivery systems is provided.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PS 8008. Advanced Principles of Pharmacokinetics. 3 Credit Hours.
An advanced course in the theory and application of pharmacokinetics and pharmacodynamics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PS 8009. Advanced Medicinal Chemistry I. 3 Credit Hours.
 Discussions of the organic chemistry of drug action and drug design. Current topics in the field are discussed using examples from the recent literature. The design, synthesis and structure activity relationships for major therapeutic drug classes are discussed in detail.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PS 8011. Advanced Medicinal Chemistry II. 3 Credit Hours.
Continued discussions of the organic chemistry of drug action and drug design with current topics discussed using examples from the recent literature. Students review the current literature, give presentations and write research proposals based on their readings and class materials.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PS 8012. Radioisotope Methodology. 3 Credit Hours.
Introductory discussion of the characteristics and properties of ionizing radiation, methods of detection (gas ionization, scintillation, both liquid and solid spectroscopy), radiation standards for safety and protection, and basic evaluation of biological hazards and effects.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PS 8051. Seminar in Pharm Science. 1 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
PS 8111. Introduction to Toxicology. 3 Credit Hours.
Toxicology is a multi-disciplinary science focused on the adverse effects of chemicals, drugs and environmental agents. In the first part of this course the basic principles of toxicology will be covered, including dose response relationships, mechanisms of toxicity and exposure. In the second part, target organs of toxicity will be presented with an overview of anatomy and physiology of different target organs (e.g. liver, kidney), as well as organ-specific response to toxic insult. In the final segment of the course, students will be exposed to a variety of areas of applied toxicology, including risk assessment, clinical & forensic toxicology, chemical carcinogenesis, reproductive toxicology and the role of toxicology in drug development.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PS 8121. Department of Pharmaceutical Sciences Seminar Series. 1 Credit Hour.
The goal of the course is to expose graduate students in the Department of Pharmaceutical Sciences to the faculty research in our department. Students will be presented with a number of research topics, including pharmaceutics, pharmacokinetics, medicinal chemistry, biotransformation, pharmacology, and physiology. In addition to the presentations by faculty members, several guest speakers will present their research topics and discuss their opinions on science careers outside of academia (i.e., industry, medical writing, medical science liaison, etc.). Through exposure to these diverse research topics, students will become more well-rounded scientists and become more aware of career opportunities that are available to them.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PS 8122. Writing and Publishing a Review Article. 1 Credit Hour.
The purpose of this course is to research, write and submit a manuscript (review article) in English for publication in a refereed scientific journal.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PS 8123. Bioinformatic Genes Drug. 1 Credit Hour.
The course is a one semester Research project focused on inherited factors that modulate drug response. The use of Web-based computer software for data mining, genetic variability in humans, detection and prediction of pharmacologically relevant genetic polymorphisms will be presented. The course is an introductory level course for students involved in research on Pharmacogenomics and Pharmacogenetics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PS 8125. Journ Club/Pharmacodyn. 1 Credit Hour.
Course aims to keep participants up-to-date on current literature in the field. Participants will present the background, content, and implications of a paper of their choosing to the class. In addition, Temple researchers may present their ongoing research and/or review the current literature in the field. The goals of the course are to: 1) facilitate the sharing of knowledge and discussion of current information and 2) to aid students in the critical interpretation of the literature, and the presentation of the results to their colleagues.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PS 8126. Laboratory Experience in Pharmaceutical Sciences. 1 Credit Hour.
Students enrolled in this course will be mentored by a member of the graduate faculty in the department in order to become familiar with the research area of the instructor and the everyday workings of the laboratory. The techniques, instrumentation, and procedures covered during the semester will vary depending on the concentration of interest and may include medicinal chemistry/drug discovery, pharmaceutics/pharmacokinetics or pharmacodynamics/pharmacogenomics. Students will be exposed to a wide variety of experimental techniques and analytical instrumentation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PS 8127. Pharmacokinetics. 3 Credit Hours.
The objective of this course is to present the fundamental principles of pharmacokinetics (PK). The topics will include PK data analysis, dosage regimen design, and the determinants of drug absorption, distribution, metabolism, and excretion. Pharmacodynamics, the study of drug concentration - response relationships, will also be presented.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
PS 8128. Principles in Drug Discovery. 3 Credit Hours.
In this course, students will receive an introduction to the fundamental principles of drug discovery and development, beginning with an historical overview of drug discovery.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PS 8129. Bioethics in Research. 2 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PS 8131. Principles of Biochemistry. 4 Credit Hours.
The course provides students with information regarding the chemical and physical properties of biomolecules. Moreover, the interrelated roles of these molecules in a functioning biological system are emphasized.

Department Restrictions: Must be enrolled in one of the following Departments: Pharmacy:Pharmaceutical Scienc.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PS 8132. Topics in Pharmaceutical Biotechnology. 2 Credit Hours.
This is a seminar course in which students will research and give oral presentations on topics of their choice within the broad subject of pharmaceutical biotechnology.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PS 8133. Introduction to Translational Molecular Technology. 2 Credit Hours.
This is a survey course that will introduce graduate students to important topics in the area of translational research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PS 8134. Neuroscience of Pain. 2 Credit Hours.
This is a neuroscience course that covers the anatomical and physiologic basis for different forms of pain.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PS 8402. Pharmacodynamics. 3 Credit Hours.
This course covers the theoretical underpinnings and practical aspects of quantitative pharmacology. A key feature of the course is its concentration on the integrated study of a drug’s pharmacokinetics (transport to its site of action: including absorption, distribution, biotransformation, and excretion) and its mechanism of action at the site of action. Emphasis is placed on the mathematical foundations of such topics as drug-receptor theory, Schild analysis, Furchgott’s method, radioligand binding studies, PK/PD modeling, and isobolographic analysis of drug combinations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PS 8403. Advanced Pharmacogenomics. 2 Credit Hours.
The course is a one semester course focused on inherited factors that modulate drug response. Special problems of genetic variability in humans, detection and prediction of pharmacologically relevant genetic polymorphisms will be discussed. The course will integrate current mechanistic knowledge of drugs, human genetics, data mining, and analytical tools to tailor drug administration for a specific genetic background.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
PS 8131|Minimum Grade of C|May not be taken concurrently.
PS 8404. Pharmaceutical Sciences Literature Review. 2 Credit Hours.
This course is to expose graduate students to the current literature in Pharmaceutics, Pharmacodynamics and Drug Delivery. The goal of the course is to expose the student to a variety of literature articles pertaining to the physical, biologic, and formulation of pharmaceutical dosage forms. At the end of the course the student should be able to compare and critique articles from several journals common to the area of pharmaceutics, analyze literature articles as to the relevancy the results to the discussion, propose new research based on the current literature article, and be able to write an abstract for a review article based on several publications.

Department Restrictions: Must be enrolled in one of the following Departments: Pharmacy:Pharmaceutical Scienc.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PS 8464. Abuses of Drugs and Chemicals. 3 Credit Hours.
Pharmacology of drugs of abuse and related chemicals, the extent of drug abuse, factors fostering drug abuse, and treatment methods.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PS 8478. Modified Release Dosage Forms. 3 Credit Hours.
The fundamentals involved in various extended release dosage forms and their modification for use in particular dosage formulations. Biopharmaceutical and pharmacokinetic aspects of extended-release dosage forms are discussed as well. Overview of polymeric excipients used in the formulation of extended-release dosage forms. Current commercial products under development will be discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PS 8502. Advanced Pharmacokinetic Modeling I. 2 Credit Hours.
This course will cover drug transport in biological systems and advanced topics in pharmacokinetics and pharmacodynamics. Course will also involve computer methods to derive models and discussion of current literature.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PS 8582. Physical Pharmacy II. 3 Credit Hours.
The rheological behavior of polymer systems will be discussed. The physical chemical properties of proteins and peptides will be presented with formulation applications. This is an advanced course. Physical Pharmacy I is a prerequisite.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PS 8583. Chemical Surfaces & Interfaces. 3 Credit Hours.
Topics: types and structure of surfactant molecules; properties of aqueous and non-aqueous surfactant solutions; foaming; micelle formation and solubilization. Binary systems; tenary systems; surfactant-water-amphiphile. Stabilization of emulsions and of solid/liquid dispersions. Biological applications.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PS 8584. Advanced Drug and Gene Delivery Systems. 3 Credit Hours.
The application of nanometer to micrometer delivery systems for disease management has made tremendous advances in recent years. Products of nanotechnology are expected to revolutionize modern medicine due to their versatility in targeting tissues and controlling the release of drugs. Global initiatives are in place to support nanotechnology and nanomedicine. In this interactive course, students will learn the basic principles of advanced drug and gene delivery and its major biomedical applications. The methods or strategies of preparation and evaluation of the commonly used drug and gene delivery systems will be discussed. In addition, students will present selected focused topics on the novel drug and gene delivery systems under the instructors' guidance.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
PS 8592. Food and Drug Law. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PS 8603. Dermatopharmaceutics. 3 Credit Hours.
Study of the physiology, biochemistry, immunology, skin permeability, and penetration enhancers as well as role of growth factors in healing after injuries. Semi-solid products, influence of formulation variables and their overall drug release capacities in-vitro and in-vivo will be evaluated. Transdermal, iontophoresis, sonophoresis topics, and bioequivalence/bioavailability of topical preparation will be discussed.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PS 8985. Teaching in Higher Educ. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PS 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
This course fulfills the continuous enrollment requirement after coursework completion while preparing for the Preliminary examinations.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

PS 9996. Master's Research. 1 to 6 Credit Hour.
Master's Research course appropriate for students finished with coursework and working with a faculty member on the thesis.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

PS 9998. Pre-Dissertation Research. 1 to 6 Credit Hour.
This course is appropriate for students finished with coursework and working on their dissertation proposal.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

PS 9999. Dissertation Research. 1 to 6 Credit Hour.
This course is limited to, and required of, students who have achieved candidacy and are now doing dissertation research.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.
Repeatability: This course may be repeated for additional credit.

Pharmacy Quality Assurance (QARA)

Courses
QARA 5000. Special Topics in Regulatory Affairs and Quality Assurance. 2 to 4 Credit Hours.
Topics vary.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.
QARA 5401. Fundamentals of Pharmacology and Pharmacokinetics. 3 Credit Hours.
This introductory course to general pharmacology includes discussions of the mechanisms of action of selected drug classes. It covers pharmacokinetics, including clearance, bioavailability, compartment models, extravascular dosing, nonlinear pharmacokinetics and pharmacodynamics as they apply to the drug development process. Note: Not open to students who have taken the former PHARMACEUTICS 400 or those in the Non-Thesis M.S. program who have taken PHARMACEUTICS 5401.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5408. Pharmacoeconomics. 3 Credit Hours.
The economic methodologies used to evaluate the cost effectiveness of drug therapy are reviewed. Cost effectiveness is examined in terms of outcome assessment and quality of life measurements. The course explores the dynamic environment of health care and the process of drug product selection in managed care.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5451. Statistical Quality Control. 3 Credit Hours.
An introduction to statistical concepts, this course reviews control charts for variables, probability theory, control charts for attributes, and acceptance sampling systems. Class discussions include application to quality control of pharmaceutical manufacturing.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5458. Global Biopharmaceutical Industry. 3 Credit Hours.
What social and economic factors contributed to the development of innovator and generic pharmaceutical companies, and what are their current and future trends? This course introduces students to the basic structure of the pharmaceutical industry, examining the growth and relationships among various sectors, including the fully-integrated companies of big pharma, the generic and biotech industry, and specialty and service companies, such as CROs and CMOs. Social, political, demographic, economic, and technological influences will be examined not only in the US domestic market, but also across major world economies, including the differences between national health and single-payer systems. A segment of the course focuses on the impact of the Waxman-Hatch Act on drug price competition and patent term restoration.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5459. Drug Development. 3 Credit Hours.
This course studies the drug development process from discovery through FDA marketing approval. It reviews the process of development and the interrelationships linking the various disciplines, introducing students to regulations governing the process, including the interactions with FDA, ICH, and other regulatory agencies. Note: This course is required for the M.S. in RA and QA, the Drug Development Certificate, and the Certificate in Clinical Trial Management.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5469. Pharmaceutical Laboratory Quality Systems and Operations. 3 Credit Hours.
The laboratory plays a key role in the manufacture and release of pharmaceuticals. An effective QC lab assures the integrity of the data generated to enable the release of raw materials, in-process, and finished products and also meets production schedules. In addition, production-related responsibilities must meet with compliance standards. This course covers these responsibilities in detail while providing insight on how to meet internal and regulatory requirements for lab operations. Why labs fail and what actions must be taken to prevent failure are covered in depth.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
QARA 5471. Biotechnology: Bioprocess Basics. 3 Credit Hours.
This course emphasizes regulatory and control aspects of biologics manufacturing as well as Quality by Design principles. It provides students with a basic understanding of the major steps involved in the manufacture of biologics/biopharmaceuticals, including preparation of media, fermentation, harvesting/recovery, purification, and formulation. Included is a review of basic bioscience topics (e.g., microbiology, biochemistry, and molecular biology) with particular relevance to the study of bioprocessing techniques. Note: Not open to students who have taken the former PHARMACEUTICS 481 or those in the Non-Thesis M.S. program who have taken PHARMACEUTICS 475 or PHARMACEUTICS 5471.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5472. Pharmaceutical Marketing. 3 Credit Hours.
This course describes the marketing dynamics of the healthcare industry and the ways in which pharmaceutical companies can better meet the changing needs of patients and managed care. Focusing on individual marketing techniques, it stresses the development of multidisciplinary marketing teams. The product attributes discussed in the selling process are efficacy, safety, cost effectiveness, compliance, and treatment outcomes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5473. Generic Drug Regulation (ANDAs). 3 Credit Hours.
By examining specific case studies of Abbreviated New Drug Applications (ANDAs) which document the bioequivalence of generics to an original product, this course gives students an overview of regulatory requirements for generics, introducing problems unique to this segment of the industry.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5474. Process Validation. 3 Credit Hours.
Since the concept of "validation" originally appeared in GMP regulations, it has extended to every step in product manufacturing from building the plant to the methods used for testing and releasing its products. The course exposes students to all aspects of validation. FDA Guides and Guidelines, as well as the current emphasis on validation concerns by FDA (as identified in 483 and Warning Letter observations), will be incorporated. Students develop acceptable validation protocols and learn what constitutes an acceptable validation report.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5475. Pharmaceutical Biotechnology. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5476. Good Laboratory Practices. 3 Credit Hours.
This course explores the regulatory and quality assurance issues pertinent to pre-clinical safety research. Research study design and processes will be analyzed by pharmacologic and toxicologic methods and for carcinogenicity and reproductive toxicology. Some time is devoted to mutagenicity and pharmacokinetics, discussed in the context of developing a safety profile and determining the potential risk to humans in subsequent clinical trials. Note: This course fulfills the GxP requirement for M.S. in RA and QA students and for the Drug Development Certificate.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5477. Good Manufacturing Practices. 3 Credit Hours.
This course provides an introduction to cGMP (current good manufacturing practices). Regulations for drugs under the Food, Drug and Cosmetic Act (21 CFR 210 and 211) and their implication for personnel, buildings, equipment, and records will be thoroughly reviewed and studied. It includes a study of pertinent legal decisions and regulatory actions based on non-compliance. Note: This course fulfills the GxP requirement for RA and QA MS students and for the Drug Development Certificate. Students with extensive manufacturing experience in GMPs may petition the School to allow them to replace the basic GMP class with Advanced GMPs. To do so, students must have at least five years of GMP experience and submit a resume to the RA and QA Office for final approval.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
QARA 5478. High Purity Water Systems. 3 Credit Hours.
This course examines high purity water systems from the Quality Function perspective, covering basic aspects of system design and operation. Special attention is paid to unit operations, sanitization procedures, and routine monitoring programs. Students learn to plan validations and establish routine monitoring programs to assess ongoing quality. Domestic (NFDWR/NSDWR) requirements and international standards and regulatory expectations are discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5479. Advanced Good Manufacturing Practices - Defining "c". 3 Credit Hours.
This course brings students from the basic GMP concepts presented in QARA 5477 to a fuller understanding of the concepts of current good manufacturing practices. Discussions include how to evaluate FDA 483s and Warning Letters, the routine review of periodicals, including the Pink Sheet, Gold Sheet, and other GMP-oriented documents, and how to evaluate information provided by the FDA. Recalls are discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5491. Pre-Approval Inspections. 3 Credit Hours.
This course provides a detailed overview of Pre-Approval Inspections and how to conduct audits of facilities based on the responsibilities delineated in a pending drug application, including NDAs, ANDAs and NADAs. Emphasis is placed on reviewing the Pre-approval audit process, Pre-Approval laboratory issues (including analytical and microbiological), technology transfer, case studies involving various dosage forms, and outsourcing issues. This course stresses key areas for Pre-Approval inspection audits. Case studies help prepare students for issues arising during a Pre-Approval inspection. The history and evolution of the Pre-Approval program are discussed. Note: Not open to students who have taken the former PHARMACEUTICS 490.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5492. Production of Sterile Parenterals. 3 Credit Hours.
This course reviews the theory and practice involved in the preparation of sterile, injectable products, covering formulation, manufacturing, facility requirements, validation and regulatory issues. Upon completion of the course, students will develop an understanding of the routes of administration of injectable drugs and the types of injections, current formulation methods, aseptic manufacturing processes, requirements for sterile manufacturing facilities, and validation, compliance and regulatory issues.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5493. Sterilization Processes. 3 Credit Hours.
A study of the theory and application of sterilization processes in the preparation of sterile pharmaceutical materials. The course provides a mixture of lecture and group discussion covering basic principles and sterilization technology. The course will focus on moist heat sterilization using autoclaves which is the predominant sterilization method employed in the production of pharmaceuticals. A case study will be used in the course demonstrating the specification, installation, qualification and regulatory approval of a new autoclave facility. An overview of gas and radiation sterilization will be provided.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5494. Quality Audit. 3 Credit Hours.
This course covers topics in quality assurance principles, audit techniques, audit types, audit presentation and reports, auditing procedures for GMPs, GCPs, and GLPs. Note: This course is required for the M.S. in RA and QA; however, students interested in RA may substitute IND/NDA Submissions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
QARA 5495. Investigational New Drug/New Drug Application Submissions. 3 Credit Hours.
This course covers the development of Investigational New Drug (IND) and New Drug Application (NDA) submissions for FDA review. The major emphasis is directed toward developing an understanding of the philosophies and requirements FDA imposes on data submitted to support INDs and NDAs. It covers the process of producing INDs and NDAs (managing the teams, producing the submission, using electronic media) and emphasizes how to work with FDA to gain approval of a submission. FDA meetings, advisory panel hearings, appeals, strategies for review and approval of NDAs, use of Orphan drug status, and the various avenues of expedited review are discussed. Note: This course is required for the M.S. in RA and QA; however, students interested in QA may substitute Quality Audit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5496. Regulation of Medical Devices: Compliance. 3 Credit Hours.
This course examines the broad scope of the medical device industry and its quality assurance practices, covering the preclinical, clinical, manufacturing, postmarket reporting, and device-tracking compliance regulations in the U.S. and other major world markets.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5497. Statistics for Clinical Trials. 3 Credit Hours.
Assuming no previous courses in statistics, this introductory course reviews topics of interest in statistical evaluation of clinical trials.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5498. Computer Validation. 3 Credit Hours.
This course focuses on the application of computer validation concepts to computer systems operating within a pharmaceutical research and development environment. It presents the specific needs and responsibilities of the various regulatory requirements and guidelines (both domestic and global).

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5499. Drug Dosage Forms. 3 Credit Hours.
Through an overview of drug dosage form design and manufacturing technology, principles of pharmaceutical processing and pharmaceutical dosage form design (including preformulation and biopharmaceutics) are discussed, including dosage forms such as tablets, capsules, modified dosage forms, semi-solid products, and transdermal delivery systems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5502. Regulation of Medical Devices: Submissions. 3 Credit Hours.
This course provides an overview of medical device submissions. The course begins with a review of laws specific to medical devices such as the requirement for pre-market submissions. Specific topics include device classification, investigational device exemption (IDE) applications, pre-market notification submissions [510(k)s], pre-market approval applications (PMAs), humanitarian device exemptions (HDEs), product development protocols (PDPs), STED and an overview of Global Harmonization Task Force recommendations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5503. Design Controls for Medical Devices and Combination Products. 3 Credit Hours.
This course focuses on design control requirements and practices in the medical device and combination products industry. Class discussions will include design control requirements as they apply to medical devices and combination products. Current regulations and practices will be discussed and utilized to provide students with experience in executing design control activities for a range of products.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
QARA 5505. Global Regulation of Medical Devices. 3 Credit Hours.
This course provides an overview of international medical device regulations. Beginning with a discussion of the similarity of global requirements (including both voluntary and mandatory standards and directives and progressing to in-depth analyses of market specific requirements), the course provides students with resources to meet the regulatory requirements for the largest world markets. The Medical Device Directive, the In Vitro Diagnostic Directive and the Active Implantable Medical Device Directive will be discussed, as well as initiatives by the Global Harmonization Task Force related to the classification, development, and complaint handling for medical devices. As part of this course, the student will learn the quality system requirements of ISO13485, risk management according to ISO14971 and how to CE mark their product. Country-specific regulatory requirements for Canada, EU, Australia and Japan are included.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5506. Environmental Law and Regulation (EPA). 3 Credit Hours.
The mission of the Environmental Protection Agency (EPA) is to protect human health and the environment. This course will provide an understanding of basic environmental laws and regulations and EPA's enforcement activities.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5508. Good Pharmacovigilance Operations. 3 Credit Hours.
This course provides a solid foundation for understanding/managing the complexities of the lifecycle of an individual case safety report (ICSR). It reviews the process from receipt of the ICSR to reporting to regulatory authorities (both as an expedited ICSR and within a periodic safety update report). It compares US and EU regulations and ICH guidances in this area. It also covers the requirements for a validated safety database to process ICSR and Quality Systems in a Pv department. The course discusses the management of a Pv department and the business decisions required to manage the volume of cases received. Also discussed is the role of Pv agreements and preparation for a Pv inspection.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5511. Advanced Audit Workshop of Quality Systems. 3 Credit Hours.
This course, which is a continuation of Quality Audit, discusses the components of a quality system in greater depth and detail, including control systems, procedures, and documentation. Students design and audit a quality system; they also audit and critique quality systems presented by the faculty member.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5512. Microbiological Concepts in Pharmaceutical Manufacturing. 3 Credit Hours.
This course addresses essential microbiology concepts of manufacturing and quality control that form the basis of Good Manufacturing Practices for both sterile and non-sterile pharmaceuticals. Emphasis is placed on a review of the following from a microbiological perspective: manufacturing technologies and techniques, building quality into processes, influence of raw material quality on finished product, the meaning of the qualification and validation studies conducted by drug firms, and key microbiological tests performed at in-process and finished product stages. The course stresses practical matters and includes case studies to prepare students for daily issues arising in industry.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5513. Active Pharmaceutical Ingredients (APIs). 3 Credit Hours.
This course provides a working background on Active Pharmaceutical Ingredients (APIs) used in pharmaceutical dosage forms with focus on the development, manufacture and global regulations that impact successful marketing approval of products. The primary focus is on small molecule synthetic APIs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
QARA 5459|Minimum Grade of B-|May not be taken concurrently.
QARA 5514. Regulatory Electronic Submissions. 3 Credit Hours.
This course explores current regulations, tools, and specifications associated with global regulatory submissions and how these submissions have evolved from original paper formats to the current electronic Common Technical Document (eCTD) and non-eCTD electronic submissions (NeeS). Topics include similarities and differences of regulatory requirements of various global health agencies for formatting, publishing, validating and maintaining security of documents. Discussions include acceptable and required file types for eSubmissions (ranging from safety and pharmacovigilance reports, clinical studies, annual reports, health authority responses, etc.) and acceptable transition methods of legacy paper submissions to electronic formats. The course includes class discussions and workshops around common eSubmission issues.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5515. Biologics/Biosimilars: A Regulatory Overview. 3 Credit Hours.
Since the first biopharmaceutical product approval in 1982 (recombinant human insulin), the biotechnology derived product market has been rapidly growing with introduction of a number of promising advances in medicine such as therapeutic monoclonal antibodies, cancer vaccines, cytokines, antisense technology, interference RNA, and growth factors. As with traditional drugs (small molecules), the regulatory framework for approval of a biotechnology derived product (biologics) is complicated. In addition, there has been much debate about the introduction of biosimilars using an abbreviated approval process. An overall biologics-based process map beginning with pre-clinical through the post-marketing stage will be discussed. Topics such as therapeutic proteins/peptides, gene therapy, stem cells, vaccines, interference RNAs, PK-PD, world-wide regulatory filings, pre-clinical IND-enabling studies, BLA/CTD filing, biosimilars/follow-on-biologics, selected case studies, immunogenicity, comparability studies, manufacturing challenges, clinical trials, market exclusivity, and related regulatory guidelines will be discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5516. Cleaning Validation. 3 Credit Hours.
This course will review the different aspects of a pharmaceutical cleaning validation program and the criteria for each. The course will go from protocol to final report with emphasis on the regulatory risks and consequences. FDA and other regulatory agency observations will be highlighted to reinforce class material.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5517. Quant Methods-Benefit/Risk. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5518. Regulatory Issues in Pharmacogenomics. 3 Credit Hours.
Pharmacogenetics (PGT) is the study of genetic causes of variability in drug metabolism (pharmacokinetics) and responses to drugs, including adverse events (AEs) and desired pharmacological effects (pharmacodynamics). Variability can be attributed to variations in DNA, such as polymorphisms, or sequences that influence an enzyme or a receptor activity. Pharmacogenomics (PGx) is the science involving pharmacology and genomics which studies how genetic differences within a population affect body’s response to a drug. After the completion of the Human Genome Project, PGx has become an attractive tool in the attempt to develop personalized medicine that can be adapted to each person's own genetic makeup and lead to a higher therapeutic efficacy. The FDA (and other regulatory agencies) is requesting that sponsors conducting such programs consider providing pharmacogenomic data to the Agency voluntarily, when such data are not otherwise required under the regulations. Such voluntary submissions would facilitate the drug approval process and help identify patients who need dose adjustments or are prone to certain toxic effects (reflected in the drug’s label).

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5532. Global Labeling Regulation: Principles and Practices. 3 Credit Hours.
Provides a detailed analysis of corporate labeling practices in the U.S. and E.U., comparing and contrasting FDA, EU, and International Congress on Harmonization regulations. Special focus is devoted to new FDA guidelines and pharmacovigilance guidelines.

Department Restrictions: Must be enrolled in one of the following Departments: Pharmacy:QA/RA.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
QARA 5533. Requirements for Product Labeling and Advertising. 3 Credit Hours.
This course examines strategies for creating drug labeling during new product development, for updating existing product labeling, and for creating "harmonized" core data sheets for products marketed globally. Students gain insight and awareness of current trends in advertising and promotional regulation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5534. Regulatory Aspects of Biomedical/Technical Communication. 3 Credit Hours.
This course reviews regulatory requirements of biomedical/technical writing in the pharmaceutical industry. Students research, summarize, and organize typical scientific data. Issues of content (relevancy, accuracy, balance, and currency), organization, and style (e.g., American medical Association Manual of Style and current FDA and ICH guidelines) are addressed. Writing exercises include topics such as the Physician's Desk Reference, developing product label package inserts, and summarizing studies in pharmacokinetics, pharmacodynamics, efficacy and safety, product development, and stability.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5535. Advanced Topics in Labeling Development. 3 Credit Hours.
This course reviews the regulatory and legal fundamentals of labeling FDA-regulated products, specifically, prescription pharmaceuticals, emphasizing the direct application of the regulations to actual practice. It analyzes case studies and current practices, providing an overview of legal, regulatory, and marketing concepts affecting labeling. It discusses the application of current knowledge and explores new trends in the legal and regulatory framework surrounding the development and implementation of drug labeling. As a class project, students are assigned to drug development teams (Regulatory Affairs, Marketing and Clinical) and provided with the known data of their compounds. Teams determine what information is needed to complete the draft labeling for NDA submission, and develop a final label; they hold mock negotiations (internal and with the Agency) and propose changes to labeling in response to post-marketing surveillance.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5536. Good Clinical Practices. 3 Credit Hours.
This course examines the federal regulatory requirements and processes necessary to conduct valid drug trials on human volunteers. Emphasis is placed on managing the clinical drug study and auditing its processes and generated data. The course also addresses ethical issues and volunteer informed consent. Note: This course fulfills the GxP requirement for the M.S. in RA and QA students and for the Drug Development Certificate. It is required for the Certificate in Clinical Trial Management.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5537. Clinical Trial Management. 3 Credit Hours.
This course is designed to help the clinical research department member and those familiar with the industry working in related fields become more effective members of the clinical research team, whether at a company or an investigator's office. This course covers the day-to-day operations of a clinical trial, from site and investigator selection through monitoring and data retrieval. It covers key topics such as budgeting, protocol preparation, site and investigator selection, monitoring, document and file creation and maintenance, and the participation of key members of the principal investigator's team. Note: This course is required for the Certificate in Clinical Trial Management.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5538. Clinical Drug Safety and Pharmacovigilance. 3 Credit Hours.
This course provides students with an in-depth understanding of what pre-marketing Clinical Safety and Risk Management (CSRM) means in the context of both American (FDA) and international (ICH-E2C) regulatory requirements. Beginning with an historical overview of IND and international safety requirements, it examines the processes and systems in place to support compliance and the strategic documentation required for applications. It also looks at the role of risk management and epidemiological methods used to identify the signals used to quantify, assess, and communicate adverse drug reactions (ADR). Topics include clinical trial policy, the roles of the investigator, patient, and IRBs, privacy issues, informed consent, DSMB, and other related matters. Note: This course may be substituted in place of Clinical Data Management in the Certificate in Clinical Trial Management.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
QARA 5539. Global Clinical Drug Development. 3 Credit Hours.
This course focuses on the specific regulatory requirements of clinical development in the European Union, Easter Europe, Latin America, Canada, India, China and Japan. It will review the efforts of the International Conference on Harmonization (ICH) to unify Good Clinical Practices (GCPs) in these global areas, exploring the differences between cultures, races, and societies and the impact of socialized medicine. Upon successful completion of this course, students will: gain an overview of multinational clinical drug development; gain a basic understanding of cultural differences towards GCPs in various regions of the world; understand key regulatory bodies and concepts governing clinical development in various global markets; and become familiar with the ICH and its legal requirements for global clinical development. Note: This course may be substituted in place of Clinical Trial Management in the CTM certificate.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5541. Pharmaceutical Packaging: Technology and Regulation. 3 Credit Hours.
This course focuses on the complexities of packaging for the pharmaceutical industry, covering commonly used packaging systems (bottle/blister packaging for Oral solids) as well as niche applications (such as sterile/parenteral, inhalation, and nasal systems). In addition to the container/closure systems, some of the packaging processing methods will be covered. A review of the applicable regulatory environment and the submission requirements for drug products will be included. The submission needs will be covered, with a focus on the needs of the newly implemented Common Technical Document (CTD). A visit to a manufacturing facility of one of the industry's suppliers will be required.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5543. Good Distribution Practices. 3 Credit Hours.
Students will study the organizational, managerial and technology issues related to the supply chain, logistics, and distribution functions of the pharmaceutical industry, particularly generic pharmaceuticals. They will be introduced to the tools and technologies that companies use to optimize their supply chain, logistics, and distribution functions, with specific emphasis on how generic companies configure and operate these aspects. Topics include: supply chain operations; integration with distributors, wholesalers, and other channels; WHO/FDA regulations and guidelines; supply chain security (counterfeiting, RFIDs, etc.); inventory considerations (management, turns, cost); demand and capacity planning; lean operations; postponement; supply constraints; and technologies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5544. Regulatory Intelligence. 3 Credit Hours.
This course examines the fundamentals of Regulatory Intelligence, including what it is, how it is conducted, and how it is used to influence regulatory decision making throughout the development and lifecycle management of a therapeutic product. Students will learn to monitor the legislative and regulatory landscape by assessing accessible information data.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(QARA 5459|Minimum Grade of B-|May not be taken concurrently
AND QARA 5592|Minimum Grade of B-|May not be taken concurrently)

QARA 5545. Post Approval Changes (PAC). 3 Credit Hours.
This course reviews SUPAC guidelines developed by CDER to maintain product safety, efficacy, and quality while giving manufacturers substantial regulatory relief and flexibility. A basic review of formulation development of various dosage forms provides a complete understanding of the guidelines and of regulatory strategies for formulation development.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
QARA 5546. Global Pharmaceutical Excipient Regulation. 3 Credit Hours.
An integral part of almost all pharmaceutical dosage forms, excipients play an important role in drug development. This course discusses the function of excipients, providing an in-depth examination of their unique yet globally diverse regulatory requirements in major world markets. Excipient selection, assessment, and supplier qualifications will be discussed, as well as Adverse Events (AEs) related to excipient quality. This course stresses how global pharmaceutical excipient regulation is critical in developing formulations that have the potential for international approvals.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5547. Project Management for Clinical Trials. 3 Credit Hours.
Creation of clinical development plans to better lead, manage and operate clinical trials. Combines basic project management methodology and drug development best practices needed for leading and managing a clinical trial time.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
QARA 5459 Minimum Grade of B May not be taken concurrently
OR QARA 5536 Minimum Grade of B May not be taken concurrently.

QARA 5548. Risk Management of Pharmaceutical and Medical Devices. 3 Credit Hours.
This course focuses on risk management requirements and practices in the pharmaceutical, medical device, and biotech industries. Current regulations and risk management tools will be discussed and utilized to provide students with experience in executing risk assessments.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
QARA 5459 Minimum Grade of B May not be taken concurrently
OR QARA 5536 Minimum Grade of B May not be taken concurrently.

QARA 5571. Post-Marketing Safety Surveillance. 3 Credit Hours.
This course provides an in-depth understanding of post-marketing safety surveillance (PMSS) in the context of both American (FDA) and international (ICH-E2C) regulatory requirements. It begins with a historical overview of PMSS and then reviews the role of epidemiological methods in identifying signals and quantifying, assessing, and preventing adverse drug reactions (ADR). Medical/legal issues, benefits and limitations of safety surveillance systems, labeling changes, the ability to refute false signals, and social and ethical obligations inherent in the conduct of PMSS are discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5572. Vaccines: Regulatory Affairs and Quality Assurance Issues. 3 Credit Hours.
This course addresses the history, research and development, manufacture, marketing, and medical impact of vaccines. Various public policy, regulatory, ethical, and legal issues in this area are discussed as they pertain to the U.S. and, to some extent, international markets. Beginning with the eradication of smallpox, this course covers the development of widely used vaccines against once common diseases (e.g., polio, mumps, varicella, etc.), to the development of vaccines against HIV, anthrax, and certain types of cancer.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5573. Pharmacoepidemiology. 3 Credit Hours.
This course introduces students to principles of study design, concepts of causal inference, and major types of epidemiological studies. These principles are applied to the distribution and determination of the effects (expected and unintended, beneficial and adverse) of pharmaceuticals on human populations. Risk-benefit analyses, cost-benefit assessments, regulatory issues, and legal and public health concerns are discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5574. Pharmaceutical Quality Management Systems. 3 Credit Hours.
This course presents a comprehensive Quality Management Systems approach to the pharmaceutical industry based on Q10 regulations. SOPs, Deviation/Non-conformance, Corrective and Preventative Action, Supplier Management, Change Management, Validation, and Process controls via Key Performance Indicators are explored. Focus is placed on the key areas for inspection readiness and robust Quality Systems development.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
QARA 5575. Regulatory Sciences: Managing the Guidelines to Quality. 3 Credit Hours.
The International Conference on Harmonization (ICH) has revolutionized the format and content of global regulatory filings with the Common Technical Document (CTD). Recent FDA draft guidelines have incorporated and expanded upon concepts described by the ICH. As the term “guideline” implies, such documents should not be generally viewed as regulations, but as “recommendations” to consider when developing the body of scientific information. Proper interpretation of the guidelines based on sound scientific principles is essential to optimize both the quality and quantity of information submitted to global regulatory agencies. Consequently, review of various ICH and FDA Quality guidelines will be supplemented by a discussion of the basic scientific principles that may influence implementation. After completing this course, students should understand the basic expectations set forth in various ICH and FDA Quality Guidelines. They should also realize that the guidelines are subject to interpretation and not definitive regulations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5576. Global CMC Issues and Regulatory Dossier. 3 Credit Hours.
The course provides students with an in-depth knowledge of the major chemistry, manufacturing, and controls (CMC) issues facing the global pharmaceutical industry. Students learn the practical and theoretical skills necessary to develop successful CMC dossiers from the initial clinical application through marketing and post-marketing support. The class emphasizes long range CMC planning to combine technical and regulatory knowledge with strategic thinking. The class is designed for regulatory professionals, managers, and scientists with significant responsibility for CMC dossiers.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5577. Global CMC Regulatory Compliance for Biopharmaceuticals and Other Biologics. 3 Credit Hours.
This course provides an introduction to the chemistry, manufacturing and controls (CMC) topics involved in the development and licensure of biologic products (biopharmaceuticals, vaccines) in the US, Europe and other highly regulated world regions. Topics will be discussed from the perspective of Regulatory and QA requirements and expectations. Basic microbiology, cell biology and chemistry concepts will be reviewed with an emphasis on their practical application to product development and RA/QA. The class orients RA/QA professionals, managers and scientists responsible for biopharmaceutical CMC development and preparation of dossiers to the CMC content matter and technical issues that must be addressed in biologic product development and registration globally. Topics include adventitious agents testing, cell and seed bank testing methods and requirements, drug substance production via cell culture, protein and virus purification methods, control and analysis of process impurities, analytical methods and potency testing for characterization and release, strategy for specification setting for release and stability, comparability studies for biologics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
QARA 5459|Minimum Grade of B|May not be taken concurrently.

QARA 5578. Benefit Risk Management and Safety Signaling of Healthcare Products. 3 Credit Hours.
This course provides students with a basic understanding of the principles involved in developing, negotiating, and implementing Benefit-Risk Management Plans. While the focus will be on risk management plans intended for the EU and USA markets, the general principles are applicable across most regulatory jurisdictions in the world.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
QARA 5571|Minimum Grade of B-|May not be taken concurrently
OR QARA 5538|Minimum Grade of B-|May not be taken concurrently.
QARA 5579. Regulatory and Legal Basis of Pharmacovigilance. 3 Credit Hours.
This course provides students with a basic understanding of the key regulations and laws that influence the development and management of a pharmacovigilance system, either in a manufacturer or health agency environments. The main emphasis will be on FDA, EU, and Japan and ICH, but discussions of emerging countries’ systems will also be included. In addition to pharmaceuticals, the course provides an overview of the related product vigilance areas, such as medical devices, over-the-counter products, and drug/device combinations. In addition to understanding the regulatory framework, additional instruction will include discussions of partnership agreements, pharmacovigilance aspects of due diligence, licensing and acquisitions, and product liability issues.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5591. Global Regulatory Affairs. 3 Credit Hours.
This course provides a detailed analysis of the regulatory processes for new drug approvals outside of North America. Students gain experience in comparing the European and Japanese registration trends with those of the United States. Future regulatory structures in the major world markets are explored.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5592. Food and Drug Law. 3 Credit Hours.
This course studies the governance of intra- and interstate commerce in foods, drugs, cosmetics, and medical devices and the effects of the Federal Food, Drug and Cosmetic Act upon research, manufacture, marketing, and distribution of drugs. Note: This course is required for the M.S. in RA and QA and for the Drug Development Certificate.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5594. Regulation of Dietary Supplements, Botanicals, and Nutraceuticals. 3 Credit Hours.
The course focuses on legal issues surrounding the regulation of dietary supplements, nutraceuticals, and botanicals. When does a dietary supplement become a drug under the Federal Food, Drug and Cosmetic Act? What are the legal requirements for labeling? How are claims treated? These topics, along with current issues related to the regulations of dietary supplement are explored. The impact of the Dietary Supplement Health and Education Act, the Federal Food, Drug and Cosmetic Act, the FDA Modernization Act (FDAMA), and other relevant laws are examined. The enforcement authority of other federal regulatory agencies, that is, the FDA and the Federal Trade Commission, is detailed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5595. Food Law. 3 Credit Hours.
While Food and Drug Law I (Pharmaceutics 5592) briefly touches on food law, this course examines the major federal statutes and regulations applicable to food in more detail. While emphasis is placed on the role, policies, and regulations of the U.S. FDA, the practical working relationships and obligations between the food industry, the USDA, and other government entities at the state and local level are also examined. Recent efforts to respond to and combat foodborne illnesses are discussed, along with reporting requirements and recalls of defective or injurious products and micro-contamination. The course examines the quality practices respected and utilized by the FDA and USDA in the regulation of the global food supply. The Food Safety and Modernization Act is explained, including the FDA’s and USDA’s continuing obligations in implementation of this landmark legislation. Also presented are pertinent landmark judicial decisions and concepts relating to interstate commerce, corporate and individual responsibility, labeling and promotion, and importation/exportation of products that have direct applicability towards the regulation of medical products in addition to food. The practicum exposes students to FDA’s Form 483, which is the usual mode of conveying objectionable conditions for correction.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
QARA 5596. Food Labeling and Regulatory Affairs. 3 Credit Hours.
Students are provided with an in-depth understanding about how food in the U.S. must be labeled regardless of its country of origin. It examines the roles and procedures of the principal regulators (U.S. FDA and the U.S. Department of Agriculture) and their interaction with the regulated industry and third party peripherals, including consultants and analyzing laboratories. Students will learn about the food label and all of its components, problems associated with incorrect or deceptive labeling, including the risks to consumers and food manufacturers, marketers and sellers. The course introduces regulatory intelligence identifiers, including the generation of press releases and notifications when recalls are warranted. Finally the impact of recent or impending legislation or regulations for food businesses regulated by the FDA (including and especially the Food Safety and Modernization Act) will be discussed. Students will learn to identify the critical components of a food product's label, gain knowledge of the laws and regulations governing food labeling, and understand the intricacies of recalls and market withdrawals.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
QARA 5592|Minimum Grade of B-|May not be taken concurrently
OR QARA 5595|Minimum Grade of B-|May not be taken concurrently.

QARA 5597. Food Good Manufacturing Processes. 3 Credit Hours.
This course covers cGMPs (current Good Manufacturing Practices) for human food. Food safety regulations under the Food, Drug, and Cosmetic Act are covered as well as their impact on personnel, facilities, equipment, and production. Emphasis is placed on preventing foodborne hazards via an understanding of food microbiology, pathogen control, sanitation measures, allergen control, low acid canning, acidification, HACCP, and preventive controls.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5599. Clinical Aspects of Pharmaceutical Medicine. 3 Credit Hours.
This course offers students a basic understanding of the disease processes most prevalent in Western culture. Students gain an appreciation for the epidemiology and demographic patterns of disease and their societal and economic impact. In addition, students gain a basic understanding of the etiology and the pathophysiology underlying the disease processes and the role of pharmacologic intervention.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5601. Industry Interactions with FDA/Health Authorities. 3 Credit Hours.
Presenting a global perspective by reviewing the drug approval process in the European Union (EU), this course introduces students to the importance of establishing liaisons with officials with the U.S. FDA and other world health authorities. The rapport developed with health authorities frequently lessens the time it takes to get a new drug to market. How a firm presents its data can contribute as much to the successful relationship with health authorities as the quality of data presented. Areas include: FDA organization, average workload analysis with FDA, FDA review and drug approval process, national versus mutual recognition versus centralized approval process in the EU, user fees, company "personalities," FDA/Industry meetings, inspections, Advisory Committees, IND/NDA classification system, FDA initiatives to speed drug approval including electronic submissions, and notable internet regulatory addresses.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5602. Clinical Aspects of Pharmaceutical Medicine II. 3 Credit Hours.
Students study key areas of clinical medicine and scientific topics such as genetics, gastroenterology, obstetrics and gynecology, medical ethics, hepatology, and emergency medicine. This course includes new issues and updates in specialties such as cardiology and oncology.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5605. Advanced Topics in Food and Drug Law. 3 Credit Hours.
This course expands the regulatory concepts covered in QARA 5592. Each semester the specific topics change.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
QARA 5611. Regulation of Advertising and Promotions. 3 Credit Hours.
This course reviews the regulatory and legal fundamentals of advertising and promotion of FDA-regulated prescription products. Emphasis will be placed on prescription pharmaceuticals and the current regulatory and legal environment. Discussions include how prescription drug regulations differ from those applicable to OTCs (over-the-counter drugs), biologics and restricted medical devices.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
QARA 5533|Minimum Grade of B-|May not be taken concurrently.

QARA 5612. Bioethics for Pharmaceutical Professionals. 3 Credit Hours.
This course focuses on bioethical issues arising in the regulation and conduct of research. It instills a basic understanding of bioethics and the theories and principles underlying its practices and application to research. It also discusses how bioethical theories and principles provide the foundation for many research regulations. Starting with a brief history of research ethics and regulation, it explores past and present ethical research controversies.
Note: This course is required for the Certificate in Clinical Trial Management.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5615. Project Management for Pharmaceutical Professionals. 3 Credit Hours.
This course discusses the strategic positioning of drugs, specifically focusing on domestic and international registration strategies. It explores why a company seeks a particular indication in labeling and how RA/QA professionals play a critical role in understanding and developing regulatory intelligences. It covers how project teams should be created, including the effective clarification of roles and responsibilities, so regulatory timeliness can be achieved. Workshops include an overview of project planning tools, techniques and critical path management, including negotiating registration strategies with the FDA and foreign agencies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5618. Clinical Data Management (CDM). 3 Credit Hours.
Data management is the activity of collecting, reviewing, organizing, and analyzing data from clinical research studies. The data from clinical research studies are the crux of a regulatory submission for a new drug or biologic. There is no basis for a therapeutic claim without data. Thus the success of a submission depends on quality data management practices and strict adherence to regulatory requirements. This course teaches students how to go from collecting data for the first protocol to ultimate submission to a regulatory agency from data collection, management, and reporting perspectives.
Note: This course is required for the Certificate in Clinical Trial Management.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5621. Regulatory Bioanalysis. 3 Credit Hours.
This course covers several broad topics: (1) a high-level quantitative analysis of biological samples that provide date to support pharmaceutical drug/biological product approval, (2) detailed instruction of FDA and EMA regulations and guidances that govern bioanalytical method development, validation and application in routine sample analysis, (3) “best practices” recommended for implementing quality management systems in a bioanalytical laboratory, and (4) discussion of approaches to address common problems that may arise during method validation and sample analysis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 5622. Unit Operations. 3 Credit Hours.
This course will expose students to the current process steps common to the manufacture of modern pharmaceuticals. In particular, the key variables for each step of a process will be discussed. Each class will feature a specific process common to pharmaceutical processing. Specific variables will be discussed, including an analysis of each process. At the end of the course the student should be able to describe a process by a series of smaller operations, describe the key variables for each small operation, identify key limitations of time and resources in proposed processes, and provide constructive improvements to complex processes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
QARA 5625. Process Analytical Technology (PAT). 3 Credit Hours.
The course focuses on state-of-the-art utilization of process controls, including multivariate methods and feedback loops. It will investigate analytical tools, including thermal conductivity, NIR, and Raman spectroscopy. It will also cover process analysis and feedback, as well as batch record analysis.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

QARA 5627. Statistical Design of Experiments (DOE). 3 Credit Hours.
This course exposes students to the use of statistical methods for designing optimal processes used in industry, extensively using data sets and data charting. At the end of the course the student should be able to: create an experimental plan to optimize a process; create a screening study to limit the number of experiments; use surface methodology to set process specifications; and use specialized methodology for material analysis.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

QARA 5629. Process Monitoring. 3 Credit Hours.
This course reviews Control Charting, Six Sigma, Root Cause Analysis, Risk/Benefit Analysis, Process Capability, and Process Efficiency/Lean Manufacturing.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

QARA 5650. Special Topics in Regulatory Affairs and Quality Assurance. 3 Credit Hours.
Special topics as announced.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

QARA 5655. Analytical Chemistry in Pharmaceutical Laboratories. 3 Credit Hours.
This course provides an overview of laboratory operations and the critical role of an analytical scientist. It reviews regulatory requirements for pharmaceutical lab operations and provides a framework for quality in a drug development laboratory. Although the course is designed for pharmaceutical scientists, many of the operations discussed are applicable to the chemical and environmental industries.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

QARA 8001. Principles of Drug Action/PK. 3 Credit Hours.
This course presents the fundamental principles of pharmacology, medicinal chemistry, and pharmacokinetics needed to understand their application in drug discovery and developmental processes. The material, presented in an integrated manner, includes the molecular mechanisms of drug action, structure-activity relationships, and the time-course of drug absorption and disposition.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

QARA 8002. Pharmaceutical Analysis. 3 Credit Hours.
Application of chemical analysis as it relates to pharmaceuticals and pharmaceutical manufacturing. Classical separation methods including GC and HPLC, as well as hyphenated techniques (GS-MC and HPLC-MC) will be explored. Students will also be introduced to newer immunologic antibody-based procedures and emerging technologies.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

QARA 8003. Pharmaceutical Manufacturing I: Preformulation/Formulation. 3 Credit Hours.
This course covers advances made in understanding powder behavior and many useful qualitative and quantitative measurements of factors important to industrial pharmacy and product development.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.
QARA 8004. Pharmaceutical Manufacturing II: Solid Dosage Forms. 3 Credit Hours.
This course presents the comprehensive, integrated, and most up-to-date methods, processing, and principles as they apply to solid dosage form design and product development. Conventional and specific techniques of industrial pharmacy, including direct compression, wet and dry granulation, fluid bed and coating operations, tableting machine instrumentation and compatibility measurements, and solid product evaluation will be presented. Novel oral dosage forms and technologies associated with solid products as well as product quality and performance assessment will be covered.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 8006. Physical Pharmacy I. 3 Credit Hours.
The emphasis of this course is to form a bridge between the concepts of physical pharmacy and the application of pharmaceutical sciences. Students will understand basic aspects of intermolecular forces, physical properties of solutions, ionic equilibria, buffers and isotonic solutions, solubility and partition phenomena, complexation and protein binding, reaction kinetics, mass transport, dissolution phenomena, interfacial phenomena, and rheology. Pharmaceutical applications based on the basic principles will be discussed as well. Students will be expected to be able to apply the basic concepts from this course to typical formulation and stability issues of pharmaceutical dosage forms.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

QARA 8007. Applied Biopharmaceutics. 3 Credit Hours.
This course considers the interrelationship of the physicochemical properties of the drug, the dosage form, and the route of administration on the rate and extent of systemic drug absorption. Drug absorption mechanisms, physiological and GIT constraints on dosage form transit and bioavailability, effect of formulation parameters, dissolution methodologies, in-vitro/in-vivo correlation of drug product performance as well as PAC, ICH and FDA guidelines on development and approval process will be covered. Formulation strategies for optimum therapeutic outcome via application of pharmaceutical sciences to the design of drug delivery systems is provided.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Philosophy (PHIL)

Courses

PHIL 5210. Special Topics in Philosophy. 3 Credit Hours.
Arranged each semester. Please consult the instructor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PHIL 5211. Intermediate Logic. 3 Credit Hours.
This course will go through the soundness and completeness proofs for a first-order deductive system (i.e., the kind used in intro logic). The main goal of the course will be to deepen the students’ understanding of logic by acquainting them with these formal results. But we’ll also try to spend a little time on some philosophical issues (e.g., what, if anything, does logic have to do with reasoning).

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 5216. Philosophy of Science. 3 Credit Hours.
Basic issues in the current philosophy of science, and particularly various accounts of such key notations of science as hypotheses, confirmation, laws, causation, explanation, and theories.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
PHIL 5217. Feminist Epistemology and the Philosophy of Science. 3 Credit Hours.
This course explores the effects of gender on scientific creativity, method and decision making. Thomas Kuhn, in The Structure of Scientific Revolutions (1962), was one of the first to show that political, social and psychological factors affect scientific change. Feminist criticisms of science, developed over the last thirty years, are one way in which his views have been developed. We will examine cases from a wide range of sciences to see where, and how, gender influences scientific practice. The complex relations between gender, race, class and nationality will also be discussed in relation to these issues. Central questions of the course will be: How pervasive is gender bias in science? Can gender bias be eliminated, and is it desirable to do so? Does the reduction of gender bias require an increased representation of women in science? Can the popular view that science is objective, truth-seeking and progressive be maintained in the face of findings of gender bias? We will read from the work of Evelyn Fox Keller, Donna Haraway, Sandra Harding, Helen Longino, Alison Wylie and others.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 5218. Philosophy of Medicine. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 5220. Special Topics in Philosophy. 3 Credit Hours.
Arranged each semester. Please consult the instructor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PHIL 5221. Social and Political Philosophy. 3 Credit Hours.
Arranged each semester. Please consult the instructor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 5222. Contemporary Ethical Theory. 3 Credit Hours.
Issues in ethical theory that have come to prominence in the 20th century. Both meta-ethical issues (about the meaning and justification of ethical statements) and normative issues (about obligation, responsibility, and goodness) will be examined.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 5223. Feminist Ethics and Political Philosophy. 3 Credit Hours.
An examination of feminism's contribution to ethics, political philosophy, and legal theory. Issues may include: the role of care versus that of justice in determining moral obligations; the nature and causes of women's oppression (including the difference between the sexual oppression experienced by white women and the additional forms of oppression to which women of color/third-world women are subject); pornography and prostitution; equality and difference; essentialism as it pertains to gender and race; feminist jurisprudence; postmodern feminism.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 5225. Metaethics. 3 Credit Hours.
The course examines the foundations of ethical value, including the metaphysics of ethical value, the semantics of ethical language, normativity, and the relation between kinds of value such as instrumental, final, intrinsic, and extrinsic as well as personal, ethical, moral, and prudential.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 5226. Classics in Moral Philosophy. 3 Credit Hours.
The course will introduce students to Greek ethical thought through seminal texts in this genre.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
PHIL 5229. Philosophy in Literature. 3 Credit Hours.
Selected philosophical themes as they appear in classical and modern literature. Frequently the themes concern the "enlightenment project," "modernism," and their critics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 5230. Special Topics. 3 Credit Hours.
Arranged each semester. Please consult the instructor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PHIL 5232. History of Aesthetics. 3 Credit Hours.
A study of major works in the history of aesthetics selected from such philosophers as Plato, Aristotle, Hume, Kant, Schopenhauer, Hegel, Dewey, Bell, Collingwood, Beardsley, Langer, Dickie, Danto, and contemporary figures.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 5233. Problems in Aesthetics. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 5234. Philosophy of Music. 3 Credit Hours.
An examination of philosophical issues concerning the nature and value of music, such as the nature of composition, performance, and appreciation of music, the varieties of musical meaning, the relation of music to the emotions, and the social importance of music.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 5235. Classics in Moral Philosophy II. 3 Credit Hours.
A study of the major works in the history of moral philosophy selected from among the writings of such philosophers as Plato, Aristotle, Hobbes, Spinoza, Hume, Kant, Mill, Nietzsche, Moore.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 5240. Special Topics. 3 Credit Hours.
Arranged each semester. Please consult the instructor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PHIL 5241. Theory of Knowledge. 3 Credit Hours.
An examination of knowledge and belief. The specific subtopics involving them include truth, perception, innate ideas, justification, induction, the a priori, mathematical knowledge and rationalism versus empiricism.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 5242. Metaphysics. 3 Credit Hours.
An examination of the most general features of the universe. Topics include the character of truth, the existence of abstract entities, the nature of persons, free will, the existence or non-existence of God, ontological commitment, the relation of philosophy to science, causation, modal properties, reality and appearance, and various forms of realism and anti-realism.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
PHIL 5243. Philosophy of Law. 3 Credit Hours.
An introduction to philosophical problems arising in the examination of legal statements, including questions and theories about the nature of law itself, about legal responsibility and legal punishment, and about standards of fairness in settling legal disputes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PHIL 5244. Philosophy of the Mind. 3 Credit Hours.
An examination of the character of mental and psychological states. Specific issues may include the nature of persons, relations between natural and psychological sciences, action, mental content, and its relation to language.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PHIL 5249. Ethics in Medicine. 3 Credit Hours.
Exploration of ethical issues generated by the application of scientific and technological advances to the preservation, destruction, and programming of human life. Topics may include: ethics of medical research, abortion, euthanasia, behavior control, allocation of scarce medical resources, and the ethics of patient-physician interaction.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PHIL 5250. Topics in the Philosophy of Psychology. 3 Credit Hours.
The course examines select topics in the philosophy of psychology such as philosophical treatments of the nature of cognition, perception, and sensation, as well as emotion, intention, action, and moral psychology.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

PHIL 5251. Philosophy of Language. 3 Credit Hours.
A study of a number of theories of meaning and reference that have played a role in current philosophizing. Also, it is has been said that many perennial philosophical issues are at bottom linguistic ones. To better evaluate this sort of claim, I hope we are able to allot time to study a selection of linguistic approaches to a variety of philosophical claims in areas such as epistemology, metaphysics, philosophy of mind, and ethics. We will approach these topics from number of influential writings, both historical and contemporary.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PHIL 5253. Philosophy of History. 3 Credit Hours.
Problems of historical knowledge, e.g., problems about the historian's claim to explain historical events (causation in history, reasons for actions, challenges to the objectivity of history) and problems about historical interpretation (including global interpretations of the historical process, such as Augustine's, Kant's, and Hegel's.)

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PHIL 5268. Indian Philosophy: An Introduction. 3 Credit Hours.
Beginnings of Indian philosophical thinking in the hymns of Rig Veda and the upanishads and the major schools of Indian philosophy as they took shape during the next thousand years. The latter include samkhya, the Buddhist schools, the Vaiseskika, the Nyaya and the major schools of Vedanta. Issues in metaphysics, epistemology, and logic emphasized.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PHIL 5269. Contemporary British and American Philosophy. 3 Credit Hours.
Selected topics in 20th and 21st century English-speaking philosophy, varying according to instructor and semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
PHIL 5271. Nineteenth-Century Philosophy. 3 Credit Hours.
Selected European philosophers from Hegel to Bradley.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 5272. Philosophy of Culture. 3 Credit Hours.
The purpose of this course is to address central themes in philosophy of culture, such as philosophical problems raised by the notion of cultural conditions of possibility, the role of signs and symbols in theories of culture, the philosophical significance of psychoanalysis, and the distinction between a philosophical anthropology and anthropological theory. This course will be topical in nature, which means that it can be taken each year as different dimensions of the subject receive focus.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 5273. Greek Philosophy. 3 Credit Hours.
Interpretation and critical examination of the dialogues of Plato and the works of Aristotle.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 5274. Pragmatism and American Thought. 3 Credit Hours.
American pragmatism and naturalism, with emphasis on Emerson, James, Peirce, Mead, Dewey, and contemporary pragmatists.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 5275. British Empiricism. 3 Credit Hours.
Selected topics in 17th- and 18th-century philosophers such as Locke, Berkeley, Hume, and Reid.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 5276. Contemporary Continental Philosophy. 3 Credit Hours.
Phenomenology and existentialism, with emphasis on such 20th century philosophers as Husserl, Heidegger, Sartre, Merleau-Ponty, Foucault, Derrida, and other post-structuralists.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 5277. Africana Philosophy. 3 Credit Hours.
Africana philosophy is an area of philosophy that focuses on philosophy as it emerges out of the African Diaspora. As such, it encompasses African philosophy, Afro-Caribbean and Afro-Latin American philosophy, African-American philosophy, and Africana critical race theory. Each semester's offering will be different. Sometimes the course will cover themes from just one or two of these areas, other times the instructor may choose to present a "survey" of the entire field.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 5278. Continental Rationalism. 3 Credit Hours.
This course is devoted to selected topics in 17th- and 18th-century philosophers in the Rationalist tradition such as Descartes, Spinoza, and Leibniz.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
PHIL 5279. Kant. 3 Credit Hours.
In depth study of some of the major critical writings of Kant.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 8601. Pro-Seminar in 20th-Century Philosophy. 3 Credit Hours.
The purpose of the pro-seminar is to acquaint students with philosophical methodology and reasoning from a variety of influential perspectives in the field. The Pro-Seminar is taught by different faculty each semester. Content and course material are at the instructors discretion.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 8602. Seminar in Greek Philosophy. 3 Credit Hours.
This course will examine Greek philosophical conceptions of pleasure and hedonism. We will begin with some Presocratic material, then move to Plato (selections from Gorgias, Protagoras, Republic). We will examine Plato's Philebus in its entirety. Thereafter, we will look at Aristotle's treatments in Nicomachean Ethics VII and X, including Eudoxus' arguments, as well as Rhetoric I. Finally, we will consider the hedonism of the Cyrenaics and Epicureans.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 8611. Seminar in Continental Rationalism. 3 Credit Hours.
Selected topics in 17th- and 18th-century philosophers such as Descartes, Spinoza and Leibniz.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 8616. Seminar in British Empiricism. 3 Credit Hours.
Selected topics in 17th- and 18th-century philosophers such as Locke, Berkeley, Hume, and Reid.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 8621. Seminar in Kant. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 8626. Seminar in Nineteenth-Century Philosophy. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 8631. Seminar in Contemporary Continental Philosophy. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 8636. Seminar in Contemporary British and American Philosophy. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHIL 8641. Seminar in American Philosophy. 3 Credit Hours.
Selected topics in the thought of American philosophers, especially the American pragmatists such as James, Dewey, and Pierce.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
PHIL 8666. Seminar in Philosophy of the Social Sciences. 3 Credit Hours.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

PHIL 8701. Seminar in Aesthetics. 3 Credit Hours.

The general plan of the seminar is to explore the master thinkers of continental aesthetics from an analytic vantage and against the dominant themes of Anglo-American aesthetics. I anticipate drawing on a good selection of continental authors and a specimen or two of a more sustained treatment. This would involve, for instance, a selection among the classic figures spanning Kant and Hegel, phenomenology, hermeneutics, structuralism, post-structuralism, and the Frankfurt-critical school at least. Proposals of topics or figures are welcome.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

PHIL 8704. Seminar in Philosophy of Literary Criticism. 3 Credit Hours.

Topics concern the critic's task of describing, interpreting, and judging literary works, e.g., the language of poetry, metaphor, style, form, symbolism, truth, evaluation, obscenity.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

PHIL 8712. Seminar in Ethics. 3 Credit Hours.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

PHIL 8721. Seminar in Social and Political Philosophy. 3 Credit Hours.

This seminar will examine three core approaches in contemporary political philosophy--Rawlsian contractarianism, Habermassian critical social theory, and feminist political theory--and will critically analyze the strengths and weaknesses of each through a study of their main exponents. Since recent controversies in social and political philosophy have tended to focus on global issues, some attention will be given to how these three approaches address questions of global justice, political ecology, and cooperation and solidarity across borders. The seminar will proceed through a close study of key texts from each approach and will involve oral presentations by participants and an original research paper. Readings will include John Rawls, Thomas Pogge, Jurgen Habermas, Iris Marion Young, Alison Jaggar, and Nancy Fraser.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

PHIL 8731. Seminar in the Philosophy of the Mind. 3 Credit Hours.

Examination of current views of such topics as materialistic accounts of mind, intentionality, the analysis of specific mental phenomena (e.g., belief, consciousness, emotion, desire), ascription of mental attributes to machines.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

PHIL 8741. Seminar in Epistemology. 3 Credit Hours.

For the most part, we will closely study disputes surrounding foundationalism. Originally a theory about justified belief, foundationalism has become a watchword in wider cultural wars. Because its wider use is not wholly unrelated to its original use in the theory of knowledge, it is certainly something on which we should try to achieve clarity. A recent anthology entitled Contemporary Debates in Epistemology, edited by Matthias Steup & Ernest Sosa contains essays, pro and con, on various aspects of this issue, written by a number of leading epistemologists, and with both defenses and critiques of each of the positions involved. The topics in the anthology cover, among other things, the nature of justification, a priori knowledge, perception, skepticism, the ethics of belief, truth, and context. The hope is that we can work through the 11 sections of this text to achieve a better grasp of the issues and their broader implications for our understanding.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

PHIL 8746. Seminar in Metaphysics. 3 Credit Hours.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.
PHIL 8755. Seminar in the Philosophy of Language. 3 Credit Hours.
This course is devoted to topics in the philosophy of language such as meaning, reference, metaphor, speech-act theory, and vagueness.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PHIL 9682. Tutorial. 6 Credit Hours.
Independent study for graduates with a professor within the department, usually their advisor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

PHIL 9782. Tutorial. 9 Credit Hours.
Independent study for graduates with a professor within the department, usually their advisor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

PHIL 9882. Tutorial. 1 to 3 Credit Hour.
Independent study for graduates with a professor within the department, usually their advisor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

PHIL 9982. Tutorial. 3 Credit Hours.
Independent study for graduates with a professor within the department, usually their advisor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

PHIL 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

PHIL 9996. Master's Thesis Research. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

PHIL 9998. Pre-Dissertation Research. 1 to 6 Credit Hour.
Registration required each semester after Preliminary Examinations while researching the dissertation proposal.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

PHIL 9999. Dissertation Research. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.
Repeatability: This course may be repeated for additional credit.

Photography (PHOT)
Courses

PHOT 8201. Digital Projects. 3 Credit Hours.
The emphasis of this course will be on creating a professional digital portfolio. Throughout the semester, students will learn a series of multimedia software applications and develop interactive presentations that will promote themselves as artists with contemporary and professional portfolios. Note: The course is limited to seniors and graduate students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

PHOT 8211. Graduate Seminar in Photography. 3 Credit Hours.
A seminar emphasizing individual research and group discussion of contemporary issues in photography. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

PHOT 8212. Graduate Seminar in Photography II. 3 Credit Hours.
A seminar emphasizing individual research and group discussion of contemporary issues in photography. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

PHOT 8222. Contemporary Photography. 3 Credit Hours.
We live in an extraordinary moment in the history of photography, a moment much hoped for and anticipated by many champions of the medium. Finally one can say without qualification that photography is a medium fully embraced by the contemporary art world. While there has always been a movement to look at and discuss photography as art, photography has never played a more central, critical and vital role in contemporary art than it does now. This course will look at both the role that photography plays in contemporary art and the role that contemporary art plays in photography. By surveying contemporary trends in photography, students in this class will develop an understanding of what exactly photography is now. At the same time the class will attempt to answer questions about what it means to be contemporary, about what the relationship between the contemporary and the historical is, and why this might be important. Through these problems students will be encouraged to develop personal work that addresses themes and ideas discussed in the class. Note: Open to Junior/Seniors. Special authorization required for non-majors.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

PHOT 8253. Graduate Photo Process Workshop. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

PHOT 8255. Graduate Photo Workshop: Digital Photography. 3 Credit Hours.
State of the art technology merges with new issues related to digital imaging.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.
PHOT 8256. Graduate Advanced Photo Workshop. 3 Credit Hours.
Photography and new applications.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

PHOT 8283. Graduate Projects in Photography I. 1 to 12 Credit Hour.
Individual conferences and group seminars. Emphasis on mastery of conceptual and technical practices with lens-based media.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

PHOT 8284. Graduate Projects in Photography II. 1 to 12 Credit Hour.
Individual conferences and group seminars. Emphasis on mastery of conceptual and technical practices with lens-based media.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

PHOT 8413. Photographic Lighting. 3 Credit Hours.
At the core of any commercial or fine art photographer’s practice is an in-depth understanding of lighting. Light is the fundamental element that makes a photograph possible, and every successful photographer's control over light is the key to their success. This course will not only focus on allowing you to gain a thorough understanding of artificial lighting techniques, but also how to approach natural light situations better, and beyond that, to an understanding of how the two work in conjunction. By revisiting the fundamentals of the large format view camera, and developing an understanding of environmental and situational lighting techniques, you will learn different commercial and fine art approaches to working in a studio setting. You will also learn lighting techniques with digital and medium formats, as well as develop an understanding regarding the differences between digital capture and negative film. In addition this course will cover advanced exposure control, lighting on location, and product lighting. Note: This course is repeatable for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

Physical Therapy (PHTH)

Courses

PHTH 8101. Introduction to Physical Therapy. 1 Credit Hour.
This course introduces students to the concepts of professionalism, advocacy and the role of the physical therapist in the American health care system. Students will learn about the American Physical Therapy Association, its role in advancing the profession of Physical Therapy, and the resources available through the organization. In preparation for clinical practice students will be introduced to various documentation strategies including electronic health records.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Repeatability: This course may not be repeated for additional credits.
PHTH 8102. Teaching, Learning, Group Dynamics. 2 Credit Hours.
The course is designed to assist the student physical therapist in improving his/her clinical and behavioral teaching, learning, and group dynamics
skill sets through activities, lectures, and group projects. The first part of the course provides instruction to the student about group dynamics.
Therapists, regardless of employment location, must work in harmony with many disciplines to achieve patient goals. Teamwork and inter-professional
communication are critical factors in accurate clinical decision making. Trust, leadership, dependency, group dynamic theory, and inclusion are explored
in the first half of the course within the framework of the inter-professional team approach to the provision of health care. The second part of the course
focuses on behaviors and teaching skills associated with the therapist-patient interaction. Students are also encouraged to reflect on their individual
learning preferences and strategies for optimizing success in the classroom and clinical environments. Topics explored include the patient-therapist
collaborative clinical decision model, patient education, the FOG index of teaching, verbal and written clinical teaching methodology, teaching pedagogy,
distance medicine, interaction with patient families, long and short term goal setting, clinical objectives and clinical education.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Repeatability: This course may not be repeated for additional credits.

PHTH 8103. Clinical Examination and Intervention Skills I. 1 Credit Hour.
This is the first course in a 3-part sequence of Clinical Examination and Intervention Skills (CEIS). The CEIS course sequence provides instruction
in and practice of examination and intervention skills that can be applied to a wide variety of clinical settings and patient populations. The CEIS I
course content includes examination and intervention skills related to bed mobility, transfers, and ambulation as well as a general review of systems
assessments including vital signs, sensory testing, and basic cognitive screening. Students also learn and practice skills of patient draping and
positioning and safety, including safe body mechanics for both therapist and client. Client history taking and basic documentation skills are introduced.
The course also incorporates concepts of customer service, infection control, and confidentiality. The course focuses on building a foundation of skills
that foster increasingly complex clinical-decision making throughout the next two courses in the CEIS sequence.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Co-requisites: PHTH 8104.

Repeatability: This course may not be repeated for additional credits.

PHTH 8104. Clinical Examination and Intervention Skills I - Lab. 1 Credit Hour.
This is the lab component of the first course in a 3-part sequence of Clinical Examination and Intervention Skills (CEIS). The CEIS course sequence provides instruction
in and practice of examination and intervention skills that can be applied to a wide variety of clinical settings and patient populations. The CEIS I Lab course content involves the psychomotor practice of examination and intervention skills related to bed mobility, transfers, and
ambulation, vital signs assessment, sensory testing, and basic cognitive screening. Students also practice skills of patient draping and positioning and
safety, including safe body mechanics for both therapist and client. The course focuses on building a foundation of clinical skills that foster increasingly
complex clinical-decision making and skill application throughout the next two courses in the CEIS sequence.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Co-requisites: PHTH 8103.

Repeatability: This course may not be repeated for additional credits.

PHTH 8105. Human Anatomy I. 3 Credit Hours.
This course represents the lecture component of the regional study of the gross structure of the human body. It includes classroom lectures regarding
anatomical considerations for the back, upper and lower limbs, thorax, head and neck, abdomen, pelvis and perineum. Emphasis is on the structure
and function of the skeletal, muscular, cardiovascular, respiratory, and peripheral nervous systems, including their embryologic development. Students
must learn the origins, insertions, actions and both spinal cord level and peripheral innervations. In addition, students must know all bony landmarks,
ligaments, and tendons that support the joints under study.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Co-requisites: PHTH 8106.

Repeatability: This course may not be repeated for additional credits.
PHTH 8106. Human Anatomy I - Lab. 3 Credit Hours.
This course represents the lab component of the regional study of the gross structure of the human body. It includes laboratory and dissection activities regarding anatomical considerations for the back, upper and lower limbs, thorax, head and neck, abdomen, pelvis and perineum. Emphasis is on the structure and function of the skeletal, muscular, cardiovascular, respiratory, and peripheral nervous systems, including their embryologic development. Students must learn the origins, insertions, actions and both spinal cord level and peripheral innervations. In addition, students must know all bony landmarks, ligaments, and tendons that support the joints under study.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Co-requisites: PHTH 8105.

Repeatability: This course may not be repeated for additional credits.

PHTH 8107. Functional Biomechanics. 2 Credit Hours.
This course provides an initial bridge between anatomy and physiology of the neuromusculoskeletal system, and the biomechanics of movement. The course is designed to help the student understand the complex nature of human movement by using various types of models to establish a biomechanical foundation from which movement can be analyzed. Students will be expected to identify, comprehend, and apply some movement models that can be appropriately generalized across multiple portions of the body and do likewise for specific movement models of specific joints, body segments or tasks such as posture, standing and basic movement patterns.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Co-requisites: PHTH 8108.

Repeatability: This course may not be repeated for additional credits.

PHTH 8108. Functional Biomechanics Lab. 1 Credit Hour.
This course is the laboratory component of Functional Biomechanics. It provides an initial bridge between anatomy and physiology of the neuromusculoskeletal system, and the biomechanics of movement. The course is designed to help the student understand the complex nature of human movement by using various types of models to establish a biomechanical foundation from which movement can be analyzed. Students will be expected to identify, comprehend, and apply some movement models that can be appropriately generalized across multiple portions of the body and do likewise for specific movement models of specific joints, body segments or tasks such as posture, standing and basic movement patterns.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Co-requisites: PHTH 8107.

Repeatability: This course may not be repeated for additional credits.

PHTH 8109. Human Physiology and Pathology I. 3 Credit Hours.
This is the first in a two-course series designed to provide first-year doctor of physical therapy students with a basic understanding of the following: normal adult human physiology, basic pathology (injury, inflammation, healing and adaptation), normal microanatomy of skin, bone and connective tissue and pathology of the cardiac, pulmonary, immune, endocrine, musculoskeletal and integumentary systems. The topics to be discussed will provide a frame of reference for the various pathophysiological states encountered by the contemporary, practicing physical therapist.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Repeatability: This course may not be repeated for additional credits.
PHTH 8111. Clinical Examination and Intervention Skills II. 2 Credit Hours.
This is the second in a 3-part sequence of courses that includes theory and evidence for, and practice of, examination and intervention skills that can be applied to a wide variety of client populations seen by physical therapists. The CEIS II course provides a framework for musculoskeletal assessment and intervention. Techniques such as manual muscle testing and goniometry are discussed based on the biomechanical concepts involved, with specific attention paid to anatomy and the reliability and validity of examination techniques. Students are expected to synthesize content from the first CEIS course to expand critical thinking and problem-solving with respect to clinical decision making. Additionally, this course provides the student a foundation in the basic theory and science of exercise and a central framework by which to prescribe and modify therapeutic exercise to a variety of clients. The student will be expected to demonstrate an understanding of how exercise impacts physiology, and how to prescribe, perform and progress therapeutic exercise programs with the goal of optimizing health.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.
Co-requisites: PHTH 8112.
Repeatability: This course may not be repeated for additional credits.

PHTH 8112. Clinical Examination and Intervention Skills II Lab. 1 Credit Hour.
This course is the lab component of the second of a 3-part sequence of Clinical Examination and Intervention Skills (CEIS). The CEIS II course provides a framework for musculoskeletal assessment and intervention based upon body region. Emphasis throughout the course is on professional behavior and safety for both the client and clinician, as the students begin to practically experience palpating their classmates and performing techniques such as range of motion (ROM), flexibility, strength, and manual therapy assessment. Additionally, this course provides the student a foundation in the basic theory and science of exercise and a central framework by which to prescribe and modify therapeutic exercise to a variety of clients. The student will be provided the opportunity to design, assess, and manipulate the key aspects of an exercise program for a variety of individuals with the intent of designing safe, effective and optimally progressed therapeutic interventions that will have the highest likelihood of adherence. Students spend their time in the laboratory practicing psychomotor examination and intervention techniques with specific attention paid to anatomy, biomechanics, and integration of concepts from the CEIS I course. Laboratory activities will also focus on clinical decision-making regarding appropriate monitoring of clients in a clinical setting.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.
Co-requisites: PHTH 8111.
Repeatability: This course may not be repeated for additional credits.

PHTH 8113. Evidence Based Practice I. 2 Credit Hours.
This is the first course in a three-course series. Evidence Based Practice I provides an introduction to the critical analysis of professional literature in preparation for practical implementation evidence based practice. Students will learn how to conduct searches of scientific and professional literature on specific topics related to physical therapy, judge the validity of information obtained through both print and electronic media, and assess the internal and external validity of research articles as sources of information on which to base clinical decisions. Students will also learn how to use web-based technology to maintain a personal database of references and prepare reports of research-based literature.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Co-requisites: PHTH 8114.
Repeatability: This course may not be repeated for additional credits.

PHTH 8114. Neuroscience. 3 Credit Hours.
Students will first learn basic neuroanatomical and brain vascular structures, their relationships to other neuroanatomical structures as well as basic neuroembryology, neurohistology and neurophysiology. Next, students will learn regional neuroanatomy and the main function of each regional structure, building on their new knowledge of neuroanatomy using case histories as a learning tool. Lastly, students will learn systems neuroscience, which focuses on how the regional brain structures connect and function as integrated sensory, motor, cognitive, and emotional processes, again using case histories as a learning tool. Thus, lectures, computer based labs and wet brain labs, interactive sessions and case histories comprise this course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Repeatability: This course may not be repeated for additional credits.
PHTH 8115. Human Physiology and Pathology II. 3 Credit Hours.
This is the second in a two-course series designed to provide first-year doctor of physical therapy students with a basic understanding of the following: normal adult human physiology, basic pathology (injury, inflammation, healing and adaptation), normal microanatomy of skin, bone and connective tissue and pathology of the cardiac, pulmonary, immune, endocrine, musculoskeletal and integumentary systems. The course work is didactic with no laboratory component. The topics to be discussed will provide a frame of reference for the various pathophysiological states encountered by the contemporary, practicing physical therapist.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Repeatability: This course may not be repeated for additional credits.

PHTH 8116. Motor Control and Learning. 2 Credit Hours.
In this course theories and basic principles of motor control and learning will be integrated and related to motor behaviors observed in individuals with or without sensory and motor impairments. The course will focus on human motor behavior that are most relevant to physical therapy practice including postural control, locomotion and goal-directed manual tasks. The students will learn to perform task analysis on motor skills as a method to analyze movement behavior and allow them to apply practice principles to enhance motor learning in individuals with or without sensory or motor impairments.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Co-requisites: PHTH 8117.

Repeatability: This course may not be repeated for additional credits.

PHTH 8117. Motor Control and Learning - Lab. 1 Credit Hour.
This is the laboratory component of Motor Control and Learning where students will gain understanding of motor control and learning through participation in simulations of motor control and learning experiments and direct practice of physical therapy skills. The students learn how to use observation and measurement of motor behaviors to make decisions related to underlying impairments in the human systems. They will utilize task analysis to exam motor skills related to postural control, ambulation and UE function. They will apply motor learning principles to practicing of motor skills to enhance learning in individuals with and without sensory or motor impairments.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Co-requisites: PHTH 8116.

Repeatability: This course may not be repeated for additional credits.

PHTH 8118. Clinical Examination and Intervention Skills III. 2 Credit Hours.
This course is the third of a 3-part sequence of Clinical Examination and Intervention Skills (CEIS). This CEIS III course provides a continuation of musculoskeletal and neuromuscular assessment and intervention initiated in CEIS II through a systematic progression through body regions. Techniques such as manual muscle testing and goniometry are discussed based on the biomechanical concepts involved, with specific attention paid to anatomy and the reliability and validity of examination techniques. Students are expected to synthesize content from the first two courses in the CEIS sequence to expand critical thinking and problem-solving with respect to clinical decision making. This course will further build upon the theory and science of exercise and prescription and modification of exercise based upon client presentation. The student will be expected to demonstrate an understanding of how exercise impacts physiology, and how to prescribe, perform and progress therapeutic exercise programs with the goal of optimizing health. Students will additionally incorporate thorough neurologic screening and balance assessment within the scope of physical therapy practice. Application of standardized outcome measures relevant to client presentation will facilitate the examination, evaluation, assessment, and development of an appropriate plan of care across various patient populations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Co-requisites: PHTH 8119.

Repeatability: This course may not be repeated for additional credits.
PTHT 8119. Clinical Examination and Intervention Skills III Lab. 1 Credit Hour.
This course is the lab component of the third of a 3-part sequence of Clinical Examination and Intervention Skills (CEIS). The CEIS III course provides a framework for musculoskeletal assessment and intervention based upon body region. Emphasis throughout the course is on professional behavior and safety for both the client and clinician, as the students begin to practically experience palpating their classmates and performing techniques such as range of motion (ROM), flexibility, strength, and manual therapy assessment. Additionally, this course provides the student a foundation in the basic theory and science of exercise and a central framework by which to prescribe and modify therapeutic exercise to a variety of clients. The student will be provided the opportunity to design, assess, and manipulate the key aspects of an exercise program for a variety of individuals with the intent of designing safe, effective and optimally progressed therapeutic interventions that will have the highest likelihood of adherence. Students spend their time in the laboratory practicing psychomotor examination and intervention techniques with specific attention paid to anatomy, biomechanics, and integration of concepts from the CEIS I and II courses. Laboratory activities will also focus on clinical decision-making regarding appropriate monitoring of clients in a clinical setting.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Co-requisites: PHTH 8118.

Repeatability: This course may not be repeated for additional credits.

PTHT 8121. Clinical Electrophysiology and Biophysical Agents. 2 Credit Hours.
Clinical Electrophysiology and Biophysical Agents presents the known physiologic and physical effects of select thermal and electrical modalities (therapeutic modalities). A problem-solving approach is used to assist the student to integrate basic physiologic, physical and medical science aspects for the safe application of the modality. Electrodiagnostic testing in the context of physical therapy practice will be presented. Validity, reliability, sensitivity and specificity of select clinical tests and the effectiveness of each thermal modality/electrotherapeutic device will be addressed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Co-requisites: PHTH 8122.

Repeatability: This course may not be repeated for additional credits.

PTHT 8122. Clinical Electrophysiology and Biophysical Agents Lab. 1 Credit Hour.
Clinical Electrophysiology and Biophysical Agents focuses on the psychomotor usage and clinical decision making of select thermal and electrical modalities (therapeutic modalities). A problem-solving approach is used to assist the student to integrate basic physiologic, physical and medical science aspects for the safe application of the modality. Electrodiagnostic testing in the context of physical therapy practice will be presented. Validity, reliability, sensitivity and specificity of select clinical tests and the effectiveness of each thermal modality/electrotherapeutic device will be addressed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Co-requisites: PHTH 8121.

Repeatability: This course may not be repeated for additional credits.

PTHT 8123. Development Across Lifespan. 1 Credit Hour.
This course represents the integration of the skills and knowledge acquired from Biomechanics and Motor Control and Learning. It builds upon the basic science and theory of previous coursework to allow an understanding of the mechanisms that define human movement and allow for interaction of the individual with their environment across the lifespan. A large focus of the course will be the typical trajectory of motor development (pediatrics through geriatrics) and pathologic effects which occur through the lifespan on an individual's ability to move and interact with their surroundings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Co-requisites: PHTH 8124.

Repeatability: This course may not be repeated for additional credits.
Course Descriptions

PHTH 8124. Development Across Lifespan - Lab. 1 Credit Hour.
This course represents the integration of the skills and knowledge acquired from Biomechanics and Motor Control and Learning. It builds upon the basic science and theory of previous coursework to allow an understanding of the mechanisms that define human movement and allow for interaction of the individual with their environment across the lifespan. A large focus of the course will be the typical trajectory of motor development (pediatrics through geriatrics) and pathologic effects which occur through the lifespan on an individual’s ability to move and interact with their surroundings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Co-requisites: PHTH 8123.
Repeatability: This course may not be repeated for additional credits.

PHTH 8125. Clinical Management of Musculoskeletal Conditions I. 3 Credit Hours.
This is the first in a series of 3 courses in the clinical musculoskeletal management sequence. The course will build upon material from previous courses in the basic sciences and foundational clinical examination and intervention skills. Students will become proficient in a patient-centered, biopsychosocial approach to the management of patients with lower quarter musculoskeletal disorders using the current best evidence to inform clinical decision making. Students will learn a comprehensive lower quarter musculoskeletal examination scheme utilizing the most valid and reliable tests and measures. Students will learn to develop and carry out a plan of skilled physical therapy treatment interventions with an emphasis on manual therapy, therapeutic exercise, and patient education.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Co-requisites: PHTH 8126.
Repeatability: This course may not be repeated for additional credits.

PHTH 8126. Clinical Management of Musculoskeletal Conditions I Lab. 1 Credit Hour.
This is the first in a series of 3 courses in the clinical musculoskeletal management sequence. This is the laboratory component of PHTH 8125. The course will build upon material from previous courses in the basic sciences and foundational clinical examination and intervention skills. Students will become proficient in a patient-centered, biopsychosocial approach to the management of patients with lower quarter musculoskeletal disorders using the current best evidence to inform clinical decision making. Students will learn a comprehensive lower quarter musculoskeletal examination scheme utilizing the most valid and reliable tests and measures. Students will learn to develop and carry out a plan of skilled physical therapy treatment interventions with an emphasis on manual therapy, therapeutic exercise, and patient education.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Co-requisites: PHTH 8125.
Repeatability: This course may not be repeated for additional credits.

PHTH 8127. Clinical Management of Neuromuscular Conditions I. 2 Credit Hours.
This is the first in a series of 2 courses in the clinical neuromuscular management sequence. The course will build upon material from previous courses in the basic sciences and foundational clinical examination and intervention skills. The student will apply the elements of examination, history, systems review, test and measures, evaluation, diagnosis, prognosis, and interventions to individuals with various neuromuscular diseases and conditions. An emphasis will be placed on designing effective interventions for individuals with stroke, traumatic brain injury (TBI), and spinal cord injury (SCI). Clinical case examples will highlight the acute and subacute rehabilitation patient management environments; however students will be introduced to prevention and long term management of chronic impairments and loss of function in these individuals. The course content will include pathophysiology, epidemiology, medical and physical therapy management of stroke, TBI, and SCI. Physical therapy examination principles and skills will be presented and practiced, including disease specific and generalized tests and measures utilized with these patient populations. Students will apply content to clinical case studies to demonstrate integration within the cognitive and psychomotor domains of learning.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Co-requisites: PHTH 8128.
Repeatability: This course may not be repeated for additional credits.
PHTH 8128. Clinical Management of Neuromuscular Conditions I - Lab. 2 Credit Hours.
This is the first in a series of 2 courses in the clinical musculoskeletal management sequence. This is the laboratory component of PHTH 8127. This laboratory course prepares the students to examine and treat individuals with neuromuscular disorders. Students will gain skills in examining and identifying impairments of the human movement system and limitations in functional activities associated with neuromuscular disorders. Students will learning general and disease specific intervention techniques to optimize functional recovery and enhance participation and quality of life in individuals after stroke and brain injury. A strong emphasis will be placed on task-oriented examination and intervention approaches for physical therapy management. Case study scenarios and clinical practical examinations will be utilized to assess knowledge translation to psychomotor and clinical reasoning skills.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.
Co-requisites: PHTH 8127.
Repeatability: This course may not be repeated for additional credits.

PHTH 8129. Psychosocial Aspects. 2 Credit Hours.
The goal of this course is for students to develop a greater appreciation of the psychosocial aspects of disability and wellness. We will examine models of disability, systems affecting individuals with disabilities, psychosocial factors related to adjustment, and treatment and health-promotion models. Psychopathology and psychiatric disabilities will be examined, as well as mental health issues related to disease, chronic and acute illness, and injury.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.
Repeatability: This course may not be repeated for additional credits.

PHTH 8131. Clinical Management of Musculoskeletal Conditions II. 3 Credit Hours.
This is the second in a series of 3 courses in the clinical musculoskeletal management sequence. The course will build upon material from previous courses in the basic sciences and foundational clinical examination and intervention skills. Students will become proficient in a patient-centered, biopsychosocial approach to the management of patients with upper quarter musculoskeletal disorders using the current best evidence to inform clinical decision making. Students will learn a comprehensive upper quarter musculoskeletal examination scheme utilizing the most valid and reliable tests and measures. Students will learn to develop and carry out a plan of skilled physical therapy treatment interventions with an emphasis on manual therapy, therapeutic exercise, and patient education.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.
Co-requisites: PHTH 8132.
Repeatability: This course may not be repeated for additional credits.

PHTH 8132. Clinical Management of Musculoskeletal Conditions II Lab. 1 Credit Hour.
This is the second in a series of 3 courses in the clinical musculoskeletal management sequence. This is the laboratory component of PHTH 8131. The course will build upon material from previous courses in the basic sciences and foundational clinical examination and intervention skills. Students will become proficient in a patient-centered, biopsychosocial approach to the management of patients with upper quarter musculoskeletal disorders using the current best evidence to inform clinical decision making. Students will learn a comprehensive upper quarter musculoskeletal examination scheme utilizing the most valid and reliable tests and measures. Students will learn to develop and carry out a plan of skilled physical therapy treatment interventions with an emphasis on manual therapy, therapeutic exercise, and patient education.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.
Co-requisites: PHTH 8131.
Repeatability: This course may not be repeated for additional credits.
PHTH 8133. Clinical Management of Neuromuscular Conditions II. 3 Credit Hours.
This is the second of two courses that cover evidence based practice for individual with neuromuscular system disorders. The course focuses on selected non-progressive and progressive neuromuscular disorders including Spinal Cord Injury, Huntington's disease, Parkinson's disease, multiple sclerosis, amyotrophic lateral sclerosis, Alzheimer's disease, post-polio, Guillain Barre, myasthenia gravis, cerebellar and vestibular disorders. Examination, evaluation, diagnosis, prognosis and application of intervention will be addressed utilizing case studies to enhance application of cognitive and psychomotor skills within the lectures and laboratory experiences. The course will include epidemiologic data, pathophysiology, and medical management and lifespan changes typically seen in these disorders. Students will develop strategies to reduce barriers in the community and enhance optimal participation in patients with chronic neuromuscular conditions by identifying resources, preventing secondary impairments, addressing wellness, and personal issues. Students will learn to select appropriate outcome measures based on psychometric properties and patient related factors. The efficacy and effectiveness of interventions to address impairments and activity loss in individuals with neuromuscular disorders will be examined.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Co-requisites: PHTH 8134.

Repeatability: This course may not be repeated for additional credits.

PHTH 8134. Clinical Management of Neuromuscular Conditions II Lab. 1 Credit Hour.
This is the second in a series of 2 courses in the clinical neuromuscular management sequence. This course will build upon material from previous courses in the basic sciences and foundational clinical examination and intervention skills as well as the initial course in the sequence. The course focuses on the application of generalized and disease specific clinical management skills to non-progressive and progressive disorders including Spinal Cord Injuries, Huntington's disease, Parkinson's disease, multiple sclerosis, amyotrophic lateral sclerosis, Alzheimer's disease, post-polio, Guillain Barre, myasthenia gravis, cerebellar and vestibular disorders. Examination, evaluation, diagnosis, prognosis and application of intervention will be addressed utilizing case studies to enhance application of cognitive and psychomotor skills within the laboratory experiences. Students will develop intervention strategies to reduce barriers in the community and enhance optimal participation in patients with chronic neuromuscular conditions by identifying resources, preventing secondary impairments, addressing wellness, and personal issues. Students will learn to apply appropriate outcome measures and interventions with improved efficacy and effectiveness to case studies with added complexity and address multi system impairments with individuals in these diagnostic groups. This course focuses mainly on acquisition of psychomotor skills to working with these populations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Co-requisites: PHTH 8134.

Repeatability: This course may not be repeated for additional credits.

PHTH 8135. Clinical Management of Cardiopulmonary Conditions. 3 Credit Hours.
The course challenges students to translate information learned in Anatomy, Physiology, Pathophysiology, and Clinical Decision Making into clinical scenarios that will represent their future practice as it relates to rehabilitation and management of individuals with cardiopulmonary conditions. Because of the evolving role of physical therapists in the health care system (including primary care), students will be expected to recognize signs and symptoms of cardiovascular and pulmonary primary and secondary diseases as they impact on the patient/client's plan of care. Students are challenged to anticipate the consequences of cardiovascular and pulmonary disease based on data collected during clinical practice. Students will gain experience in the clinical monitoring of cardiovascular and pulmonary signs and symptoms through the use of the Clinical Simulation Center. Through the use of case studies, students will need to collect and interpret clinical data from robotic mannequins programmed to display a variety of clinical scenarios that will require clinical decision making.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Repeatability: This course may not be repeated for additional credits.

PHTH 8136. Bioethics. 2 Credit Hours.
This course provides an overview of the field of bioethics, with special emphasis on areas of applicability for future physical therapists, including: methods for decision making and problem solving; informed consent and health literacy; professionalism and codes of ethics; the role of physical therapists in policy and health promotion; disability ethics; and the social determinants of health.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Repeatability: This course may not be repeated for additional credits.
**PHTH 8137. Evidence Based Practice II.** 2 Credit Hours.
This is the second course in a three course series. In Evidence Based Practice II, students will practice performing focused literature searches, documenting search strategies, evaluating the validity of clinical research studies using standard metrics and knowledge gained during Evidence Based Practice I, synthesizing multiple studies to answer a clinical foreground question, and providing a clinical bottom line. Students will work both independently and as a part of a group to complete the course objectives. This course refines and allows for practice of skills needed to locate, understand, and critique research literature for clinical decision-making. Emphasis will be placed on methods used to find relevant literature and assess the validity of individual articles, systematic reviews and meta-analyses. As a result of the activities within this course, students will be able to conduct and document a focused search of the literature to answer a specific clinical question.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

**Repeatability:** This course may not be repeated for additional credits.

**PHTH 8138. Management and Healthcare Systems.** 2 Credit Hours.
Management and Healthcare Systems is an introduction to the American Healthcare system and management of physical therapy practice. The component of the Healthcare Systems will emphasize the interconnections between the various segments of the health care system and the impact of health literacy, access, safety, reimbursement, legislation and regulation. The course will also look at the impact of consumerism and its unique characteristics in health care. It will also explore and integrate the role of physical therapy as a profession and physical therapists as professionals in the system. Further emphasis will be on class participation as a method of modeling professional behavior. Management of Physical Therapy Practices (MPTP) represents a transitional learning experience by allowing the translation of bench and clinical knowledge gained during the first year of the DPT curriculum to the procedural and management framework of developing and maintaining a physical therapy clinical practice. The student will be expected to demonstrate an understanding of how patient care assessment and intervention algorithms can meld with the parameters of reimbursement, compliance, management hierarchy, ethics, and regulatory issues in the inpatient, wellness, and outpatient settings while allowing for individual and group therapist provision of quality care and the attainment of personal and professional goals.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

**Repeatability:** This course may not be repeated for additional credits.

**PHTH 8139. Medical Diagnostics.** 2 Credit Hours.
Students will gain an appreciation for and begin to develop strategies to integrate data from medical diagnostic procedures. These data will include results obtained from imaging, laboratory chemistry tests as well as data derived from vascular, neurologic, cardiac and pulmonary testing. The focus will be on utilizing clinical data that documents the status as well as the progression of disease and its impact on differential diagnosis, prognostication, and physical therapy interventions. The course focuses on diagnostic imaging with an emphasis on the musculoskeletal system and medical diagnostic procedures such as blood, fluid, gas analysis.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

**Repeatability:** This course may not be repeated for additional credits.

**PHTH 8141. Clinical Management of Musculoskeletal Conditions III.** 3 Credit Hours.
This is the final course in a series of 3 courses in the clinical musculoskeletal management sequence. The course will build upon material from previous courses in the basic sciences and foundational clinical examination and intervention skills. Students will become proficient in a patient-centered, biopsychosocial approach to the management of patients with musculoskeletal disorders of the spine using the current best evidence to inform clinical decision making. Students will learn a comprehensive musculoskeletal examination scheme for the spine utilizing the most valid and reliable tests and measures. Students will learn to develop and carry out a plan of skilled physical therapy treatment interventions with an emphasis on manual therapy, therapeutic exercise, and patient education.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

**Co-requisites:** PHTH 8142.

**Repeatability:** This course may not be repeated for additional credits.
PHTH 8142. Clinical Management of Musculoskeletal Conditions III Lab. 1 Credit Hour.
This is the final course in a series of 3 courses in the clinical musculoskeletal management sequence. This is the laboratory component of PHTH 8141. The course will build upon material from previous courses in the basic sciences and foundational clinical examination and intervention skills. Students will become proficient in a patient-centered, biopsychosocial approach to the management of patients with musculoskeletal disorders of the spine using the current best evidence to inform clinical decision making. Students will learn a comprehensive musculoskeletal examination scheme for the spine utilizing the most valid and reliable tests and measures. Students will learn to develop and carry out a plan of skilled physical therapy treatment interventions with an emphasis on manual therapy, therapeutic exercise, and patient education.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Co-requisites: PHTH 8141.
Repeatability: This course may not be repeated for additional credits.

PHTH 8143. Management of the Medically Complex Patient. 2 Credit Hours.
Management of the Medically Complex Patient is for students to gain exposure to and develop strategies and skills in working with individuals with both medical/surgical acuity as well as complexity. Students will be challenged to interpret medical and/or surgical events/data and anticipate the impact of that information on an individual's function. Students will be challenged to develop plans of care while dealing with medical/surgical equipment and treatments that might be necessary for the patient's safety. Students will be challenged to anticipate the impact of past medical/surgical history, pharmacology, social history, and resources in developing a plan of care. Since individuals with medical acuity and/or complexity are typically encountered in institutional environment, students will develop strategies for collaboration and coordination of services with other health professionals. Because of the evolving role of physical therapists in the health care system students will be expected to provide safe, effective, patient-centered, equitable, timely, coordinated and evidence-based care for these individuals.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Co-requisites: PHTH 8144.
Repeatability: This course may not be repeated for additional credits.

PHTH 8144. Management of the Medically Complex Patient - Lab. 1 Credit Hour.
Management of the Medically Complex Patient is for students to gain exposure to and develop strategies and skills in working with individuals with both medical/surgical acuity as well as complexity. Students will be challenged to interpret medical and/or surgical events/data and anticipate the impact of that information on an individual's function. Students will be challenged to develop plans of care while dealing with medical/surgical equipment and treatments that might be necessary for the patient's safety. Students will be challenged to anticipate the impact of past medical/surgical history, pharmacology, social history, and resources in developing a plan of care. Since individuals with medical acuity and/or complexity are typically encountered in institutional environment, students will develop strategies for collaboration and coordination of services with other health professionals. Because of the evolving role of physical therapists in the health care system students will be expected to provide safe, effective, patient-centered, equitable, timely, coordinated and evidence-based care for these individuals. Laboratory sessions will include clinical simulations to gain experience in working with specialized equipment utilized with medically complex patients. Students will also participate in group presentations that will investigate complex case studies. There will be guiding questions in order to develop plans of care and to make triage decisions about the next level of care required for the individual.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Co-requisites: PHTH 8143.
Repeatability: This course may not be repeated for additional credits.
PHTH 8145. Pharmacotherapeutics. 2 Credit Hours.
The course exposes student to the importance of incorporating a patient's pharmacologic management into clinical decision making, prognosis and progression. Because of the evolving role of the physical therapist in the health care system, including primary care, students must recognize the importance and impact of pharmacologic effects on safe patient management. This course explores the essential principles of clinical pharmacology. Content includes pharmacokinetics, indications and contraindications of various drugs relative to their effect on diagnosis, prognosis and interventions in physical therapy. Specific pharmacologic categories covered in the course are cardiovascular medications, chemotherapeutic agents, antirheumatic agents, pulmonary medications, pain management strategies, neuromuscular medications, ionto/phonophoresis agents, different classifications of steroids and diabetes management agents. Through interactive teaching-learning lecture and online methodologies, students critically review and analyze various clinical pharmacology issues at both the individual and societal levels. Discipline-specific assignments are used to correlate pharmacologic principles of particular relevance to a variety of health professions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.
Repeatability: This course may not be repeated for additional credits.

PHTH 8146. Clinical Management of Pediatrics. 2 Credit Hours.
Pediatric physical therapy is practiced across a wide range of ages and developmental levels, within specialized environments spanning complex medical care to non-clinical setting such as school systems. The physiological changes associated with normal and atypical development, the interpretation of standardized assessments of development, imaging, and clinical decision making in the pediatric population will be discussed. The course content will also include pathophysiology, epidemiology, medical and physical therapy management of common pediatric conditions including neuromuscular, musculoskeletal and cardiovascular/pulmonary conditions across a variety of pediatric practice settings. Physical therapy examination principles and skills will be presented and practiced, including disease specific and generalized tests and measures utilized with these pediatric patient populations. Evidence based practice and clinical practice guidelines in pediatric physical therapy will be discussed and compared to adult physical therapy practice. The student will be expected to demonstrate an understanding of how physical therapy assessment and intervention strategies must be adapted to meet the unique needs and settings of the pediatric population. Students will be introduced to prevention and long term management of chronic impairments and loss of function across development. Topic content will be provided in seminar form with a short lecture followed by discussion and group work. Students will apply content extensively to case studies to demonstrate integration within the cognitive and psychomotor domains of learning.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.
Repeatability: This course may not be repeated for additional credits.

PHTH 8147. Clinical Pain Sciences. 1 Credit Hour.
One in five individuals within the United States live with chronic pain. Physical therapists are well positioned to take a leading role in addressing the societal and individual burden of chronic pain. This course will equip the physical therapy student with contemporary knowledge and critical thinking to enhance their understanding, assessment, and management of patients with complex and persistent pain disorders. Using a combination of lecture and group discussions/activities this course will build upon foundational knowledge from physiology, neuroscience, psychosocial issues, bioethics, and the clinical management course series. The course will emphasize a person-centered assessment process using a biopsychosocial framework. Students will learn the clinical application of non-invasive, conservative management strategies including: pain education, self-management principles, cognitive behavioral techniques, and graded motor imagery.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.
Repeatability: This course may not be repeated for additional credits.

PHTH 8148. Assistive Technologies. 2 Credit Hours.
This course represents a transitional learning experience for the third year student by allowing for the synthesis of clinical knowledge learned during the first two years of the DPT curriculum with technology meeting the needs of the International Classification of Functioning, Disability and Health (ICF) model. The student will be expected to demonstrate how patient care paradigms for the individual with a disability are not restricted to episodic care, but are tied into long term care and quality of life issues as well. The methods employed will explain to the student the concepts of AT within the traditional role of the physical therapist in assessing, prescribing, and adapting AT for mobility issues (prosthetics and orthotics). The course will also expand upon this foundation by explaining the concept of universal design and by expanding the discussion of AT to encompass such concepts as communication and cognitive aids, recreation, telerehabilitation and robotics, and most importantly, finding funding for AT. At the conclusion of the course, the student should be well prepared for the evolving role of the physical therapist to develop, maintain, and restore maximum movement, functional ability, and quality of life throughout the lifespan.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.
Repeatability: This course may not be repeated for additional credits.
**PHTH 8150. Elective - Special Topics. 1.5 Credit Hour.**
This elective experience will provide the third-year Doctor of Physical Therapy student with material related to special topics including (but not limited to): Research methodology or Community Based Interprofessional Educational opportunities.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

**Repeatability:** This course may be repeated for additional credit.

**PHTH 8151. Evidence Based Practice III. 2 Credit Hours.**
This is the third course in a three course sequence. This course is designed to encourage use of the principles of evidence-based practice, integrating clinical expertise, patients' preference/values, and research evidence to produce a therapeutic alliance. In this course, students will develop a clinical question based on a case scenario, search the literature for research pertaining to the question, critically appraise the research, develop a clinical bottom line, and apply the research, along with sound clinical decision making taking into account the clinical context and individual patient preferences, to the case scenario. The students will develop a capstone presentation and deliver it during the Annual Temple DPT Student Presentation Day.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

**Repeatability:** This course may not be repeated for additional credits.

**PHTH 8152. Elective - Musculoskeletal. 1.5 Credit Hour.**
This laboratory-based experience will provide students with instruction, practice, and peer reviewed evidence concerning orthopedic manual physical therapy. This course will build upon basic techniques learned in the Musculoskeletal Management courses and address advanced clinical decision making. All of the major regions of the musculoskeletal system will be addressed including the spine and extremities. Techniques will include joint manipulation, soft tissue mobilization, and complementary exercise. All classes will be instructed by physical therapists with fellowship training in manual physical therapy.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

**Repeatability:** This course may not be repeated for additional credits.

**PHTH 8153. Elective - Vestibular. 1.5 Credit Hour.**
This elective experience is designed to advance the student understanding and clinical decision making to beyond entry level in the specialty practice area. The content will cover pathophysiology, epidemiology, medical and physical therapy management of vestibular and balance disorders that benefit from Vestibular Rehabilitation. The course will cover 5 primary diagnostic groups: vestibular hypofunction or imbalance, Benign Paroxysmal Positional Vertigo (BPPV), chronic subject dizziness, central disorders and post concussive syndromes. Students will refine and further develop testing and treatment skills. An emphasis will be placed on clinical decisions for diagnosis, need for referral, and selecting interventions and setting appropriate level of intervention that is specific to the severity of presentation and the needs of the individual. The students will be exposed to diagnostic utility of vestibular functions testing and additional testing to problem solve atypical presentation in these populations. The students will discuss and practice treatment progressions specific to the impairments, and the functional and participation deficits seen in these individuals. Students will present case studies and journal club to demonstrate integration and application of clinical evidence in individuals with vestibular and balance disorders.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

**Repeatability:** This course may not be repeated for additional credits.

**PHTH 8154. Elective - Clinical Simulation. 1.5 Credit Hour.**
The goal of this experience is to expose students to "real time" clinically simulated physical therapy situations where they will have to interpret or collect examination data, react to changes in patient status, perform or plan interventions, and document clinical findings and conclusions. The clinical situations will be of increasing complexity with different levels of clinical decision making. The student will be exposed to documentation strategies that match the clinical environment of the simulated case. The topic content will include preparatory paper-based case studies, the utilization of clinical simulation interactions that involve interactions with robotic simulators as well as actual standardized patients, and debriefing sessions.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

**Repeatability:** This course may not be repeated for additional credits.
**PTHT 8155. Elective - Pediatrics. 1.5 Credit Hour.**

This elective experience will provide the third-year Doctor of Physical Therapy student with a comprehensive overview of the process of normal and pathological development from prenatal to late adolescence. The World Health Organization’s International Classification of Functioning, Disability and Health - Children and Youth version (ICF/CY) will serve as the course’s health classification framework. Physical therapy practice across common pediatric conditions and settings will be discussed and compared to adult physical therapy practice. This seminar experience represents a translational learning experience: taking the previously learned clinical science, assessment and interventional strategies from the first two years of the DPT program and directing them toward a specific age-defined cohort of individuals. The student will be expected to demonstrate a complex understanding of how physical therapy assessment and intervention strategies must be adapted to meet the unique needs and settings of the pediatric population. Topic content will be provided in seminar form with a short lecture followed by discussion and group work. Outside experts and experimental learning will also be utilized.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

**Repeatability:** This course may not be repeated for additional credits.

**PTHT 8156. Elective - Geriatrics. 1.5 Credit Hour.**

As America continues to age (in 1900 only 4% of all Americans were age 65 or older; in 2050 the number will be 20%), the need for physical therapists with expert knowledge in this content area continues to grow. The course will open with a lecture discussing values of the geriatric cohort. Discussion will then move to the physical assessment of the geriatric patient utilizing the HOAC II as an assessment model. Additional lectures will target the physiological changes associated with normal aging, the interpretation of imaging, cardiovascular, and laboratory testing, and the impact of the results on clinical decision making in the elderly. Since the typical older patient is taking four medications per day a discussion will be provided as to the impact of these medications on the physical therapy intervention. Two classes will be dedicated to the writing of an exercise prescription and outcome measures for the medically complex geriatric patient. The final class will be a case study discussion of a medically complex patient utilizing actual radiographic, laboratory and imaging data along with the results of the comprehensive physical examination. This experience will provide the third-year Doctor of Physical Therapy student with a comprehensive overview of the process of normal and pathological aging: physiology, cognition, pathology, societal interaction, and functional adaptation. This seminar experience represents a translational learning experience: taking the previously learned clinical science, assessment and interventional strategies from the first two years of the DPT program and directing them toward a specific age-defined cohort of individuals. The student will be expected to demonstrate a complex understanding of how physical therapy assessment and intervention strategies must be adapted to meet the unique needs of this vulnerable population. Topic content will be provided in seminar form with a short lecture followed by discussion and group work. Outside experts and experimental learning will also be utilized.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

**Repeatability:** This course may not be repeated for additional credits.

**PTHT 8160. Special Topics - Integrated Learning Experience. 1 Credit Hour.**

The course serves as a “capstone” in which students continue to develop complex clinical reasoning by using a faculty-designed critical thinking scaffold. Student groups are assigned cases designed to demonstrate systematic clinical decision making. The student groups investigate the assigned cases and respond to the corresponding questions presented with each case scenario. Each group then provides a teaching module on their case (which includes practice of psychomotor skills relevant to the case) to their peers. The course culminates in an integrated learning experience that provides an opportunity for students to self-assess and receive individual feedback on their ability to examine and evaluate a simulated patient in either an inpatient or an outpatient environment.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

**Repeatability:** This course may be repeated for additional credit.
PHTH 8161. Integrated Clinical Experience 1. 1 Credit Hour.
The Integrated Clinical Experience (ICE) 1 course is the first in a series of five. This course implements approaches to develop the clinical reasoning scaffold in patient care, while enhancing opportunities for growth of professional behaviors and peer learning. The aim of the ICE course series is to integrate concurrent didactic coursework with experiential learning activities in varying settings. The ICE 1 course emphasizes the development of the patient-therapist interaction surrounding basic clinical skills and aims to present clinical decision making strategies at a linear and beginner level. The course activities take place in simulated patient environments, clinical settings, and in the classroom and aim to foster professional behavior, communication, and patient interaction skills. Guided self-reflection is utilized to illustrate the interactions within the reasoning process, appropriate for students at this beginning level. Students perform self and peer reflection within learning activities related to basic skill development occurring simultaneously in the didactic curriculum. Students will be expected to act in a professional manner and practice skills learned in laboratory sessions of 1st year DPT courses during this experiential learning course. Presented clinical and simulated cases highlight typical attributes of the health condition, body structure/function, activities, and participation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.
Repeatability: This course may not be repeated for additional credits.

PHTH 8162. Integrated Clinical Experience 2. 1 Credit Hour.
The Integrated Clinical Experience (ICE) 2 course is the second in a series of five. This course implements approaches to develop the clinical reasoning scaffold in patient care, while enhancing opportunities for growth of professional behaviors and peer learning. The aim of the ICE course series is to integrate concurrent didactic coursework with experiential learning activities in varying settings. The ICE 2 course emphasizes the development of the patient-therapist interaction surrounding basic clinical skills and aims to present clinical decision making strategies at a linear and beginner level. The course activities take place in simulated patient environments, clinical settings, and in the classroom and aim to foster professional behavior, communication, and patient interaction skills. Guided self-reflection is utilized to illustrate the interactions within the reasoning process, appropriate for students at this beginning level. Students perform self and peer reflection within learning activities related to basic skill development occurring simultaneously in the didactic curriculum, as well as skills learned across semesters in the 1st year. Students will be expected to act in a professional manner and practice skills learned in laboratory sessions of 1st year DPT courses during this experiential learning course. Presented clinical and simulated cases highlight typical attributes of the health condition, body structure/function, activities, and participation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.
Repeatability: This course may not be repeated for additional credits.

PHTH 8163. Integrated Clinical Experience 3. 1 Credit Hour.
The Integrated Clinical Experience (ICE) 3 course is the third in a series of five. This course implements approaches to develop the clinical reasoning scaffold in patient care, while enhancing opportunities for growth of professional behaviors and peer learning. The aim of the ICE course series is to integrate concurrent didactic coursework with experiential learning activities in varying settings. The ICE 3 course further develops patient-therapist interaction surrounding basic clinical skills and aims to present clinical decision making strategies at a linear and beginner level. The course activities take place in simulated patient environments, clinical settings, and in the classroom and aim to foster professional behavior, communication, and patient interaction skills. Guided self-reflection is utilized to illustrate the interactions within the reasoning process, appropriate for students at this beginning level. Students perform self and peer reflection within learning activities related to basic skill development occurring simultaneously in the didactic curriculum, as well as skills learned across the entire 1st year didactic curriculum. Presented clinical and simulated cases highlight typical attributes of the health condition, body structure/function, activities, and participation. Students will synthesize examination and evaluation findings to expand upon the linear clinical decision-making process. This synthesis facilitates the development of an appropriate physical therapy prognosis and plan of care with a focus on the ICF model.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.
Repeatability: This course may not be repeated for additional credits.
PHTH 8164. Integrated Clinical Experience 4. 1 Credit Hour.
The Integrated Clinical Experience (ICE) 4 course is the fourth in a series of five. This course implements approaches to develop the clinical reasoning scaffold in patient care, while enhancing opportunities for growth of professional behaviors and peer learning. The aim of the ICE course series is to integrate concurrent didactic coursework with experiential learning activities in varying settings. The ICE 4 course emphasizes the integration of the ICF model and its complex interactions and aims to foster more comprehensive and multi-faceted clinical decision-making strategies. ICE 4 expands upon the foundations established during the first year based upon the concurrent body systems course work. The course activities take place in simulated patient environments, clinical settings, and in the classroom and aim to foster professional behavior, communication, and patient interaction skills. The ICE 4 course helps to further develop the framework of clinical reasoning processes and strategies, integrating material between the courses and student's concurrent educational experiences. ICE 4 expands upon the foundations established during the first year based upon the concurrent body systems course work. The course activities take place in simulated patient environments, clinical settings, and in the classroom and aim to foster professional behavior, communication, and patient interaction skills. The ICE 4 course helps to further develop the framework of clinical reasoning processes and strategies, integrating material between the courses in the Fall semester of the 2nd didactic year, and between the first and second academic years. Additional complexity is incorporated into clinical scenarios and patient/client interactions that involve patient-related environmental factors such as motivation, family support, beliefs and expectations. It is the expectation that students begin to develop more complex and nonlinear clinical reasoning skills in the ICE 4 course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.
Repeatability: This course may not be repeated for additional credits.

PHTH 8165. Integrated Clinical Experience 5. 1 Credit Hour.
The Integrated Clinical Experience (ICE) 5 course is the fifth in a series of five. This course implements approaches to develop the clinical reasoning scaffold in patient care, while enhancing opportunities for growth of professional behaviors and peer learning. The aim of the ICE course series is to integrate concurrent didactic coursework with experiential learning activities in varying settings. The ICE 5 course emphasizes the integration of the ICF model and its complex interactions and aims to foster more comprehensive and multi-faceted clinical decision-making strategies. ICE 5 expands upon the foundations established during the first year based upon the concurrent body systems course work. The course activities take place in simulated patient environments, clinical settings, and in the classroom and aim to foster professional behavior, communication, and patient interaction skills. The ICE 5 course helps to further develop the framework of clinical reasoning processes and strategies, integrating material between the courses in the Spring semester of the 2nd didactic year, across semesters in the 2nd didactic year, and between the first and second academic years. Additional complexity is incorporated into clinical scenarios and patient/client interactions that involve patient-related environmental factors such as motivation, family support, beliefs and expectations. At the end of the ICE 5 course, students should demonstrate readiness to enter the full-time clinical education curriculum.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.
Repeatability: This course may not be repeated for additional credits.

PHTH 8502. Human Anatomy I. 3 Credit Hours.
This course represents the lecture component of a regional study of the gross structure of the human body. It includes classroom lectures regarding anatomical considerations for the back, upper and lower limbs, thorax, head and neck, abdomen, pelvis and perineum. Emphasis is on the structure and function of the skeletal, muscular, cardiovascular, respiratory, and peripheral nervous systems, including their embryologic development. Students must learn the origins, insertions, actions and both spinal cord level and peripheral innervations. In addition, students must know all bony landmarks, ligaments, tendons that support the joints under study.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Co-requisites: PHTH 8503.
Repeatability: This course may not be repeated for additional credits.

PHTH 8503. Human Anatomy II. 3 Credit Hours.
This course represents the lab component of a regional study of the gross structure of the human body. It includes laboratory and dissection activities regarding anatomical considerations for the back, upper and lower limbs, thorax, head and neck, abdomen, pelvis and perineum. Emphasis is on the structure and function of the skeletal, muscular, cardiovascular, respiratory, and peripheral nervous systems, including their embryologic development. Students must learn the origins, insertions, actions and both spinal cord level and peripheral innervations. In addition, students must know all bony landmarks, ligaments, tendons that support the joints under study.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Co-requisites: PHTH 8502.
Repeatability: This course may not be repeated for additional credits.
PHTH 8512. Human Physiology. 3 Credit Hours.
This course provides D.P.T. students with an opportunity to learn basic facts and principles of physiology. The course focuses on cellular, skeletal, muscular, neurological, cardiovascular, pulmonary, integumentary, renal, endocrine, and metabolic physiology. The discussed clinical topics are relevant to the modern practicing physical therapist.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHTH 8513. Movement Science I. 3 Credit Hours.
This course begins with recognition of the external forces and factors that affect movement and then moves on to the interaction between biological structures, the forces they generate and encounter, and how the body assesses and coordinates the variables responsible in the production and control of movement. Tissue mechanics relevant to bone, skeletal muscle, cartilage, tendons, and ligaments provide a basis for understanding the contribution of these tissues to movement, not only at a specific joint in the body, but also across multiple joints in the body. In addition, students are required to recognize the implications of environmental conditions associated with movement, including statics, dynamics, reaction forces, and the effect of cognitive intent by the person performing the movement.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHTH 8514. Clinical Decision Making. 2 Credit Hours.
This course presents evidenced-based models and exemplars of clinical decision making, including the World Health Organization's International Classification of Functioning, Disability and Health Model, decision making bias and heuristics, patient management, documentation styles, interdisciplinary care, teamwork, and interview/evaluation algorithms. This course provides the student physical therapist with the tools to utilize a patient-therapist collaborative model to develop a goal-directed, team-centered intervention that encompasses the physical, psychological, social, and psychomotor status of the patient.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHTH 8516. Introduction to Physical Therapy. 1 Credit Hour.
This course introduces students to the concepts of professionalism, advocacy, and the role of the physical therapist in the American health care system. Students learn about the American Physical Therapy Association, its role in advancing the profession of Physical Therapy, and resources available through the organization. In preparation for clinical practice, students are introduced to various documentation strategies, including electronic health records. Students complete a medical terminology self-study prior to the beginning of the semester to help enhance documentation skills.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHTH 8517. Clinical Examination & Intervention Skills I. 3 Credit Hours.
This Clinical Examination and Intervention Skills (CEIS) course provides an introduction to appropriate patient/client and clinician positioning/draping to preserve the modesty of the patient/client as well as the safety of the patient/client and clinician. The practices of appropriate positioning and draping for both the patient/client and clinician are emphasized throughout the course as the students begin to practically experience palpating their classmates and performing techniques such as soft tissue mobilization. Techniques such as manual muscle testing and goniometry are discussed based on the biomechanical concepts involved. Students spend their time in the laboratory practicing these techniques with specific attention paid to anatomy and the reliability and validity of manual muscle testing and range of motion measurements. Additionally, screening techniques (both gross motor and neurological) are addressed with time to practice these techniques assigned to the laboratory component of the class in order to help facilitate the student's developing decision-making processes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHTH 8518. Psychosocial Aspects. 2 Credit Hours.
This course focuses on thoughtful critical thinking regarding the needs of human beings during illness and disease states and the related specific skills the student will require to successfully interact with and enhance wellness of patients and families in health care settings. To accomplish this, a variety of topics are presented through required readings, lectures, discussions, and experiential activities.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
PHTH 8521. Neuroscience. 3 Credit Hours.
This course offers a study of the anatomy of the human nervous system with special attention to the brain and spinal cord. It includes histology, physiology, and pathology of the nervous system. Examples are given of the cause-effect relationship between lesions and symptoms, albeit complex.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHTH 8522. Rehabilitative Pathophysiology. 3 Credit Hours.
There are three components of this course: basic pathology (injury and adaptation); normal microanatomy of skin, bone, and connective tissue; and pathology of the cardiac, pulmonary, immune, endocrine, musculoskeletal, and integumentary systems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHTH 8523. Movement Science II. 4 Credit Hours.
Theories and basic principles of motor control, development, and learning are integrated and related to motor behavior across the human lifespan. Examples of both typical and atypical behavior are used to demonstrate the influence of impairments on control, development, and learning. Introductory concepts related to recovery of function following central nervous system damage are included.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHTH 8524. Clinical Examination & Intervention Skills II. 2 Credit Hours.
The Clinical Examination and Intervention Skills (CEIS) course sequence contains theory and evidence for and practice of examination and intervention skills that can be applied to a wide variety of clinical settings and patient populations. The CEIS II course content includes examination and intervention skills related to bed mobility, transfers, and ambulation. It also provides a general review of systems assessments, including vital signs, sensory testing, cognitive assessment, and tests of dynamic posture, reflexes, and tone - all within a context of functional intervention, safety, customer service, infection control, and confidentiality. The development and advancement of the patient-therapist therapeutic relationship within the patient-practitioner collaborative model is emphasized in this course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHTH 8525. Clinical Electroneurophysiology. 3 Credit Hours.
This course includes the known physiologic and physical effects and application of select thermal and electrical therapeutic modalities. A problem-solving approach is used to assist the student to integrate basic physiologic, physical, and medical science aspects for the safe application of the modality. Electrodiagnostic testing in the context of physical therapy practice is presented. Validity, reliability, sensitivity, and specificity of select clinical tests and the effectiveness of each thermal modality/electrotherapeutic device are addressed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHTH 8528. Critical Inquiry I. 3 Credit Hours.
This course provides an introduction to the critical analysis of professional literature in preparation for evidence-based practice. Students learn how to conduct searches of scientific and professional literature related to physical therapy, how to judge the validity of information obtained through both print and electronic media, and how to assess the internal and external validity of research articles as sources of information on which to base clinical decisions. Students also learn how to use web-based technology to prepare reports of research-based literature.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
PHTH 8529. Exercise. 3 Credit Hours.
Course content begins with an introduction of peripheral neurophysiology that functions as both a feedback system and instigator of human movement. Studied next is the physiologic response of connective tissue to exercise, including tissue irritability and plasticity, and how each relates to the goals of increased range or mobility through stretching and increased strength or stability from exercise progression. The decision-making rationale of exercise prescription is then discussed within the context of these goals regarding the use of exercise to augment performance in the areas of strength, power, and endurance, plus the progression and monitoring of the physiologic response to exercise for both symptomatic and asymptomatic individuals. Specific attention is paid to the concept of isometric, isotonic, and isokinematic (or any other) forms of exercise, including the incorporation of neural influences through proprioceptive neuromuscular facilitation (PNF).

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PHTH 8531. Pro Bono Clinical Practice. 0 Credit Hours.
This elective course provides students actively enrolled in a health/health care program with opportunities to practice and learn new clinical skills from licensed community-based practitioners in their respective fields who will serve as their clinical mentors. Students have the opportunity to apply knowledge and skills that they are currently learning in a real practice setting. The clinical services are delivered in the College of Public Health’s North Broad Physical Therapy Center which is a pro bono clinic providing health and health care services to individuals who are uninsured, under-insured, or do not have the financial means to make their copays. The Center emphasizes the importance of inter-professional education and collaboration for students in the College of Public Health and the Schools of Medicine and Pharmacy.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Medicine, Lewis Katz School, Pharmacy, Social Work.
Repeatability: This course may be repeated for additional credit.

PHTH 8532. Clinical Management of Musculoskeletal Conditions I. 4 Credit Hours.
The goal of the three-course musculoskeletal management series is for students to become proficient in the physical therapy management of patients with musculoskeletal disorders. Evidence-based practice serves as a foundation for this course. Students learn a comprehensive examination scheme utilizing the most valid and reliable tests and measures. Using the current best evidence, students learn to develop a plan of skilled interventions for patients with selected musculoskeletal disorders. Psychomotor skills are emphasized and practiced to proficiency during laboratory sessions for selected physical examination tests and manual therapy techniques. This course begins with an overview of the examination and intervention process for patients with musculoskeletal disorders. The focus of the remaining material is on the lower quarter regions of the musculoskeletal system: lumbar spine, pelvis, hip, knee, ankle, and foot.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PHTH 8533. Movement Science III. 2 Credit Hours.
This course provides D.P.T. students with an opportunity to learn basic facts and principles of physiology. The course focuses on cellular, skeletal, muscular, neurological, cardiovascular, pulmonary, integumentary, renal, endocrine, and metabolic physiology. The discussed topics are relevant to the modern practicing physical therapist.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PHTH 8534. Clinical Management of Neuromuscular Conditions I. 4 Credit Hours.
This course introduces evidence-based practice for adults and children with neurologic dysfunction. Using the International Classification of Function (ICF) model and the Hypothesis Oriented Algorithm for Clinicians (HOAC), students focus on evaluation and treatment for impairments of the human movement system and limitations in functional activities. Emphasis is placed on designing effective interventions for individuals with stroke, cerebral palsy (CP), traumatic brain injury (TBI), and spinal cord injury (SCI). Epidemiologic data and clinical medicine topics related to these diagnostic groups are presented. Issues related to the psychometric properties of measures and treatment efficacy and effectiveness are emphasized. The concept of diagnosis of neuromuscular disorders by physical therapists is introduced.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
PHTH 8535. Clinical Management of Cardiopulmonary Conditions. 3 Credit Hours.
This course includes presentation of advanced pathophysiology, examination techniques, and therapeutic interventions specific to the cardiac, vascular, and pulmonary systems. The course begins with the functional applications and implications of primary and secondary cardiovascular and pulmonary anatomy and dysfunction as it relates to movement dysfunctions. Throughout the course, students gain knowledge of disease pathology and progression, appropriate interventions, tests and procedures, plan of care progressions, and management of the acutely ill patient. The course emphasis is on impairments related to primary or secondary dysfunction of the cardiac and ventilatory pumps. Topics include aging, diabetes, cardiac rehabilitation, pulmonary rehabilitation, the use of supplemental oxygen as a clinical drug, and rehabilitation strategies for management of patients with co-morbidities affecting the cardiac, vascular, and pulmonary systems. This course includes wellness and prevention care, cultural issues, epidemiological data, and outcome measures. Issues of validity, reliability, sensitivity, and specificity are addressed with all examination techniques.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PHTH 8536. Teaching Learning & Group Dynamics. 3 Credit Hours.
The focus of this course is the development of the teaching, learning, and group dynamics knowledge and skills needed by health care professionals to serve as effective change agents with patients/clients and students, as well as effective collaborators with colleagues across disciplines and health care administrators. In addition, the course provides insight on the skills needed to evaluate the impact of the teaching, learning, and group dynamic initiatives to bring about change through the presentation of a variety of topics, required readings, lectures, seminars, and experiential activities.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PHTH 8542. Clinical Management of Musculoskeletal Conditions II. 4 Credit Hours.
The second course in the musculoskeletal management series emphasizes the same concepts as PHTH 8532 with a focus on the upper quarter regions of the musculoskeletal system: cervical and thoracic spine, shoulder girdle, elbow, wrist, and hand.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PHTH 8546. Bioethics. 2 Credit Hours.
This 10-week course focuses on the complexity of clinical and research scenarios. It requires health care expertise and an understanding of bioethical principles and values, within the context of a decision-making process. This course allows the student to increase understanding of ethics within the context of ethical dilemmas, understand more about one's own values and preferences when collecting information and making decisions, and value the gifts of collaboration when making bioethical decisions. Students explore scenarios that require ethical decision-making and develop some expertise with using an ethical decision-making matrix and applying the APTA Code of Ethics and Guide for Professional Conduct.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PHTH 8547. Management and Health Care Systems. 3 Credit Hours.
This course is an introduction to the American health care system, using a model proposed by Kissick, which identifies four major system components: resources, delivery systems, planning/regulatory infrastructure, and consumers. The course looks at all four of these components with less emphasis on consumers as this area is addressed in the Behavioral Science Series and again in the Management course. This course emphasizes the interconnections between the various segments of the health care system. It also explores and integrates the role of physical therapy as a profession and physical therapists as professionals in the system. Further emphasis is on class participation as a method of modeling professional behavior.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PHTH 8548. Critical Inquiry II. 1 to 2 Credit Hour.
This course continues the fall semester Critical Inquiry I course by providing practice of skills needed to locate, understand, and critique research literature for clinical decision-making. Emphasis is on methods used to find relevant literature and assess the validity of research articles, systematic reviews, and meta-analyses. As a result of the activities in this course, students are able to conduct and document a focused search of the literature, effectively examining and interpreting the validity of research reported in the literature to enable appropriate judgments about the application of research evidence to clinical questions. Students are also able to document the analysis of research studies’ validity.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
PHTH 8550. Special Topics in Physical Therapy. 4 Credit Hours.
Offered as a 10-week, 4-credit course during the Fall Semester of the third year of the DPT curriculum. The course is designed to introduce third-year student physical therapists to leading edge and niche areas of practice commonly encountered by the contemporary practicing physical therapist. The course utilizes a “two-pronged” approach, with faculty providing current, high-quality literature on which to base clinical decisions and treatment while clinical guest lecturers provide information regarding the “PT application” in the clinic.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PHTH 8551. Medical Diagnostics. 2 Credit Hours.
Students gain an appreciation for and begin to develop strategies to integrate data from medical diagnostic procedures. These data include results obtained from imaging and laboratory chemistry tests, as well as data derived from vascular, neurologic, cardiac, and pulmonary testing. The focus is on utilizing clinical data that documents both the status and the progression of disease and its impact on differential diagnosis, prognostication, and physical therapy interventions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHTH 8552. Clinical Management of Musculoskeletal Conditions III. 3 Credit Hours.
The third musculoskeletal management course emphasizes advanced clinical decision making and integration of material from across the curriculum, body systems, and lifespan. Selected areas of the upper and lower quarter regions of the musculoskeletal systems are reviewed and updated. Special topics such as management of chronic pain, work-related musculoskeletal disorders, injury prevention, complex regional pain syndrome, and temporomandibular joint disorders are also covered.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHTH 8553. Clinical Medicine & Pharmacotherapeutics. 3 Credit Hours.
During the first half of the class, students gain an appreciation for the natural history, medical and/or surgical management of diabetes mellitus, HIV/AIDS, rheumatologic disorders, oncology, organ transplantation, and infectious diseases from the perspective of various health care practitioners, including nurses, physicians, and physical therapists. Students also gain an appreciation for the impact of these disorders on functional abilities and the role of the physical therapist in the coordination and management of care for individuals with these diseases. During the second half of the class, students are introduced to pharmacology as it relates to the practice of physical therapy. Discussions include pharmacokinetics and the indications and contraindications of various drugs relative to their effect on diagnosis, prognosis, and interventions in physical therapy. Specific pharmacologic categories covered in the course are cardiovascular medications, chemotherapeutic agents, NSAIDS, antirheumatic agents, pulmonary medications, pain management strategies, neuromuscular medications, ionto/phonopheresis agents, different classifications of steroids, and diabetes management agents.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHTH 8554. Clinical Management of Neuromuscular Conditions II. 3 Credit Hours.
The course covers evidence-based practice for children and adults with disorders of the neuromuscular system with an emphasis on progressive disorders and selected current topics in managing neuromuscular disorders. Examination, evaluation, diagnosis, prognosis, and treatment of individuals with these disorders are addressed. The course includes epidemiologic data and medical management of progressive disorders, lifespan change in neurologic status, outcome measures, prevention of secondary impairments, wellness for individuals with neuromuscular dysfunction, and cultural issues related to the disorders presented. Issues addressed include validity, reliability, sensitivity, and specificity of measures as well as evidence of treatment efficacy and effectiveness.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
PHTH 8555. Assistive Technologies. 2 Credit Hours.
This course presents the theory, evidence for, and process of examination and interventions used in the management of patients with a variety of complex or multiple organ-system pathologies. Emphasis is on the rehabilitation management of patients with transient, prolonged, or residual impairments that affect functional and vocational performance. Students learn about home and workplace assessment, as well as assessment for and prescription of appliances and equipment used to maximize patients’ functional abilities. These include wheelchairs, seating systems, alternative and adaptive equipment, aides, and prosthetic and orthotic devices.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHTH 8557. Management of Physical Therapy Practices. 3 Credit Hours.
This course covers a transitional learning experience for the third-year student by allowing the synthesis of clinical knowledge learned during the first two years of the D.P.T. curriculum with an administrative and procedural framework. The student is expected to demonstrate an understanding of how patient care paradigms can meld with the parameters of reimbursement, compliance, management hierarchy, and regulatory issues while allowing for individual and group therapist growth. The capstone project entails the students providing a local physical therapy clinical department with real-time assistance on a management issue germane to that department. The students are expected to meet with the assigned clinical staff, collect data, research the management issue, and provide a reasonable and effective solution utilizing evidenced-based practice guidelines where acceptable.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHTH 8558. Evidence-Based Practice I. 2 to 4 Credit Hours.
This is the first in a two-course sequence designed to encourage use of the principles of evidence-based practice, integrating clinical expertise, patients’ values, and research evidence to produce a therapeutic alliance. In this course, students generate a systematic review of the literature to answer a specific clinical question. Students can choose either a review of therapeutic interventions or diagnostic tests. The key project for this course is a written systematic review in a standardized format. In addition, during the annual Temple PT Student Presentation Day, students present their research through either a poster or platform presentation format.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHTH 8559. Elective - Clinical Specialty. 3 Credit Hours.
The physical therapy profession is a dynamic profession responding to changes in practice settings, health care policy, societal issues, and knowledge advancements. This course will cover topics that reflect current and anticipated needs in our profession that have emerged in current physical therapy practice. PHTH 8559 is an elective course for third year Doctor of Physical Therapy students and is designed to contain content classified as above the standard of entry-level professional education in physical therapy. Topics offered vary across areas of specialized clinical practice and clinical research activities of departmental faculty members. The content associated with each offered topic fulfills the course metric requirement for a 1.5 credit course and each student must successfully complete two (2) topics over the duration of the semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHTH 8568. Evidence-Based Practice II. 2 Credit Hours.
This is the second in a two-course sequence designed to encourage use of the principles of evidence-based practice, integrating clinical expertise, patient values, and research evidence during clinical practice. This course is offered via a distance learning format utilizing the Blackboard courseware platform. Students complete several written assignments related to the application of evidence-based principles to their clinical practice. The primary project is an individual project in which the students apply the principles of evidence-based practice to a clinical problem encountered during the final clinical internship. The student then presents this process to colleagues in their clinical setting as an in-service.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHTH 8571. Phys Therapy Diagnostics. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Transitional-DPT.

Repeatability: This course may not be repeated for additional credits.
PHTH 8572. Clinical Pharmacology. 1.5 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Transitional-DPT.
Repeatability: This course may not be repeated for additional credits.

PHTH 8573. Diagnostic Imaging. 1.5 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Transitional-DPT.
Repeatability: This course may not be repeated for additional credits.

PHTH 8574. Ethics. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Transitional-DPT.
Repeatability: This course may not be repeated for additional credits.

PHTH 8575. Motor Control & Human Mov. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Transitional-DPT.
Repeatability: This course may not be repeated for additional credits.

PHTH 8576. Clinical Decision Making. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Transitional-DPT.
Repeatability: This course may not be repeated for additional credits.

PHTH 8577. Health Care System. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Transitional-DPT.
Repeatability: This course may not be repeated for additional credits.

PHTH 8578. Outcome Meas Epidemiolog. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Transitional-DPT.
Repeatability: This course may not be repeated for additional credits.

PHTH 8579. Teaching and Learning. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Transitional-DPT.
Repeatability: This course may not be repeated for additional credits.

PHTH 8581. Msklt Mgt I Residency. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PHTH 8582. Msklt Mgt II Residency. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PHTH 9085. Mentorship I Residency. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

PHTH 9086. Mentorship II Residency. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.
PTHT 9185. Clinical Experience 1. 8 Credit Hours.
Clinical Experience 1 is the first full-time clinical experience occurring after several part-time fieldwork experiences and most of the clinical management didactic content. The affiliation typically takes place off site and is coordinated, managed, and overseen by the Director of Clinical Education. This affiliation focuses on developing and integrating clinical skills and engaging in clinical decision making with various patient populations. The students will have the opportunity to problem solve and utilize their clinical decision making skills in examining, evaluating, assessing and developing plans of care with patients/clients with appropriate supervision as per the objectives of this course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Repeatability: This course may not be repeated for additional credits.

PTHT 9285. Clinical Experience 2. 4 Credit Hours.
Clinical Experience 2 is the second full-time clinical experience occurring after all didactic content has been delivered. The Clinical Experience 2 is twelve weeks in length. The affiliation typically takes place off site and is coordinated, managed, and overseen by the Director of Clinical Education. The students will have the opportunity to problem solve and utilize their clinical decision making skills in examining, evaluating, assessing and developing plans of care for varied patient populations as per the objectives of the course. Students will be supervised in an affiliating clinical facility by a licensed physical therapist, using an experiential teaching format. Students will have the opportunity to work and learn in a physical therapy setting, and have the opportunity to integrate classroom didactic information with practical hands-on clinical experience. The student will have exposure to patient care, have the opportunity for clinical learning and teaching, administration, observation and/or participation in research, and practice and adopt professional socialization skills. Instructional methods will include online asynchronous Blackboard assignments and onsite clinical practical experience.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Repeatability: This course may be repeated for a total of 8 credit.

PTHT 9385. Clinical Experience 3. 8 Credit Hours.
Clinical Experience 3 is the third and final full-time clinical experience occurring after all didactic content has been delivered. The Clinical Experience 3 is twelve weeks in length. The affiliation typically takes place off site and is coordinated, managed, and overseen by the Director of Clinical Education. The students will have the opportunity to problem solve and utilize their clinical decision making skills in examining, evaluating, assessing and developing plans of care for varied patient populations as per the objectives of the course. Students will be supervised in an affiliating clinical facility by a licensed physical therapist, using an experiential teaching format. Students will have the opportunity to work and learn in a physical therapy setting, and have the opportunity to integrate classroom didactic information with practical hands-on clinical experience. The student will have exposure to patient care, have the opportunity for clinical learning and teaching, administration, observation and/or participation in research, and practice and adopt professional socialization skills. Instructional methods will include online asynchronous Blackboard assignments and onsite clinical practical experience.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Physical Therapy.

Repeatability: This course may not be repeated for additional credits.

PTHT 9785. Clinical Internship I. 6 Credit Hours.
Clinical Internship I follows the first year of completed academic coursework. The internship takes place off-site and is coordinated by the Director of Clinical Education. This internship focuses on developing the professional clinical skills needed to work with various patient populations. Specifically, this internship gives students the opportunity to interact with patients in order to practice their interview skills, their interpersonal communication, their patient/client education, and their basic examination skills, including range of motion, manual muscle testing, palpation, and data collection.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

PTHT 9885. Clinical Internship II. 12 Credit Hours.
The second full-time clinical internship takes place over the course of twelve weeks. Clinical Internship II typically occurs during the summer semester of the student's second academic year. The internship typically takes place off-site and is coordinated, managed, and overseen by the Director of Clinical Education. This internship focuses on developing and integrating clinical skills and engaging in clinical decision-making with various patient populations. Students are evaluated by the Clinical Instructor using the APTA PT CPI Web (2006).

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.
PHTH 9620. Human Movement Science I: Neural Factors. 3 Credit Hours.
Current theories and research pertaining to the neural mechanisms of motor control and sensorimotor integration are introduced as a foundation for the evaluation and treatment of movement and balance deficits. Studies involving lesions of the nervous system are discussed to demonstrate the impact of neural impairments on motor performance and motor learning. The course also introduces the neurophysiologic methods to evaluate the relationship between neural circuitry and human movement (e.g., MRI, EEG, single unit recording, and PET).

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PHTH 9621. Human Movement Science III: Cognition and Learning. 3 Credit Hours.
A survey of theory and research concerning the cognitive processes of the human brain and motor behavior is conducted. Emphasis is on the developmental changes that underlie cognition as they relate to motor behavior. These objectives are approached by examining lifespan motor development and learning, attentional mechanisms, perceptual effects on motor output, implicit and procedural memory effects on motor control, automatic compensatory responses and/or strategies following injury or disease, and adaptation to long- and short-term changes in the body or environment.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHTH 9622. Instrumentation and Motion Analysis. 3 Credit Hours.
Current methodology appropriate to the study of normal and abnormal human movement is presented. Both technical and theoretical foundations of instrumentation use are included. Students have opportunities to develop skills in data acquisition, reduction, and analyses in the laboratory sessions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHTH 9623. Atypical Human Movement. 3 Credit Hours.
An exploration of the theoretical perspectives used to interpret movement dysfunctions. Topics include overuse, developmental regression, limited repertoires, and external and internal constraints. Required for Ph.D. students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
PHTH 9620|May not be taken concurrently.

PHTH 9624. Human Movement Science II: Mechanics and Models. 3 Credit Hours.
Application of the mechanical principles to static and dynamic models of human posture and movement and of the mechanical properties of the link-segment systems and biological tissues are introduced in this course. Dynamical systems framework are introduced as a basis for understanding the organization of complex movement patterns. Other systems, computational, and statistical models that are commonly used to analyze and describe the mechanisms of human posture and movement are discussed. Interpretation of the model predictions is based on healthy individuals in addition to those with movement deficits.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHTH 9625. Clinical Decision Making. 3 Credit Hours.
A survey of theory and research concerning the cognitive processes of the human brain and motor behavior is conducted. Emphasis is placed on the developmental changes that underlie cognition as they relate to motor behavior. These objectives are approached by examining lifespan motor development and learning, attentional mechanisms, perceptual effects on motor output, implicit and procedural memory effects on motor control, automatic compensatory responses and/or strategies following injury or disease, and adaptation to long- and short-term changes in the body or environment.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
PHTH 9626. Musculoskeletal Impairment: Evidence for Examination and Intervention Strategies. 3 Credit Hours.
Review of evidence from refereed literature and from expert clinical practice that supports reliability, validity, and utility of examination and intervention techniques used in the physical therapy management of patients with musculoskeletal impairment.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**PHTH 9627. Movement Sci & Cognitive. 3 Credit Hours.**
Current theories pertaining to the control of movement and posture are reviewed as a foundation for the evaluation and treatment of movement and balance dysfunction. Required for Ph.D. students.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**PHTH 9645. Advanced Musculoskeletal Anatomy. 3 Credit Hours.**
Advanced cadaver dissection and study. Students must have a basic understanding of human anatomy and cadaver dissection. The course integrates clinical and anatomical perspective of the human body. Individual projects are planned by each student.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**PHTH 9651. Theoretical Foundations of Physical Therapy. 3 Credit Hours.**
This course examines theories that underlie the discipline of Physical Therapy. Topics include neuronal regeneration, balance control, motor development, cumulative trauma disorders, health services research and expertise in clinical practice. Students examine empirical evidence that supports or refutes each theory. Required for Ph.D. in PT students.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**
PHTH 9620 May not be taken concurrently.

**PHTH 9653. Research Strategies. 3 Credit Hours.**
Research in health care practice and education. Includes critical analysis of manuscripts, experimental and nonexperimental research designs, and overview of quantitative and qualitative analyses.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**PHTH 9654. Laboratory Rotations and Seminar in Human Movement Science. 3 Credit Hours.**
Full-time work in the laboratory of a faculty member to learn instrumentation and techniques pertinent to the area of research the student wishes to pursue. Two rotations are required for Ph.D. in PT students. Health care problems are also presented.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**PHTH 9655. Qualitative Research Strategies for Health Care. 3 Credit Hours.**
Qualitative research focusing on grounded theory and case analysis is the subject of this course. Combining qualitative and quantitative research strategies to study health care problems is also presented.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**PHTH 9673. Curricular Design and Teaching in the Health Professions. 3 Credit Hours.**
This course covers philosophical orientations to and alternative curricular designs for professional health care academic and clinical education, as well as theories of learning, teaching strategies, and evaluation formats. Required for Ph.D. students.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.
PHTH 9682. Independent Study. 1 to 3 Credit Hour.
This course offers individual investigation in physical therapy practice or research under the guidance of a mentor.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

PHTH 9685. Clinical Internship III. 1 to 12 Credit Hour.
This course is designed as the third full-time clinical internship for each student and takes place over the course of 12 weeks. Clinical Internship III will typically start during the fall semester of the third academic year and run into the spring semester at an off-clinical site with coordination by the Director of Clinical Education. The students will have the opportunity to problem solve and utilize their clinical decision-making skills in examining, evaluating, assessing, and developing plans of care for varied patient populations as per the objectives of the course.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**Pre-requisites:**
(PHTH 8502|Minimum Grade of B-|May not be taken concurrently
AND PHTH 8503|Minimum Grade of B-|May not be taken concurrently
AND PHTH 8512|Minimum Grade of B-|May not be taken concurrently
AND PHTH 8513|Minimum Grade of B-|May not be taken concurrently
AND PHTH 8514|Minimum Grade of B-|May not be taken concurrently
AND PHTH 8516|Minimum Grade of B-|May not be taken concurrently
AND PHTH 8517|Minimum Grade of B-|May not be taken concurrently
AND PHTH 8518|Minimum Grade of B-|May not be taken concurrently
AND PHTH 8521|Minimum Grade of B-|May not be taken concurrently
AND PHTH 8522|Minimum Grade of B-|May not be taken concurrently
AND PHTH 8523|Minimum Grade of B-|May not be taken concurrently
AND PHTH 8524|Minimum Grade of B-|May not be taken concurrently
AND PHTH 8525|Minimum Grade of B-|May not be taken concurrently
AND PHTH 8528|Minimum Grade of B-|May not be taken concurrently
AND PHTH 8529|Minimum Grade of B-|May not be taken concurrently
AND PHTH 8532|Minimum Grade of B-|May not be taken concurrently
AND PHTH 8533|Minimum Grade of B-|May not be taken concurrently
AND PHTH 8534|Minimum Grade of B-|May not be taken concurrently
AND PHTH 8535|Minimum Grade of B-|May not be taken concurrently
AND PHTH 8536|Minimum Grade of B-|May not be taken concurrently
AND PHTH 8542|Minimum Grade of B-|May not be taken concurrently
AND PHTH 8546|Minimum Grade of B-|May not be taken concurrently
AND PHTH 8547|Minimum Grade of B-|May not be taken concurrently
AND PHTH 8548|Minimum Grade of B-|May not be taken concurrently
AND PHTH 8550|Minimum Grade of B-|May be taken concurrently
AND PHTH 8551|Minimum Grade of B-|May not be taken concurrently
AND PHTH 8553|Minimum Grade of B-|May not be taken concurrently
AND PHTH 8554|Minimum Grade of B-|May not be taken concurrently
AND PHTH 8555|Minimum Grade of B-|May be taken concurrently
AND PHTH 8558|Minimum Grade of B-|May be taken concurrently
AND PHTH 8559|Minimum Grade of B-|May be taken concurrently
AND PHTH 9585|Minimum Grade of B-|May not be taken concurrently
AND PHTH 9586|Minimum Grade of B-|May not be taken concurrently)

PHTH 9686. Clinical Internship IV. 12 Credit Hours.
This course is designed as the fourth full-time clinical internship for each student. Each student participates in a total of 42 weeks of clinical internship throughout the course of the DPT program; Clinical Internship IV takes place over the course of 12 weeks. Clinical Internship IV typically occurs during spring semester of the third academic year. The internship takes place off-site and is coordinated by the Director of Clinical Education. This internship focuses on developing the professional clinical skills needed to work with various patient populations. Additionally, the students have the opportunity to problem solve and utilize their clinical decision-making skills in examining, evaluating, assessing, and developing plans of care for the patients.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.
PHTH 9687. Clinical Internship V. 9 Credit Hours.
The fifth and final full-time clinical internship takes place over the course of nine weeks. Clinical Internship V typically occurs during the spring semester of the student's third academic year. The internship takes place off-site and is coordinated by the Director of Clinical Education. This internship focuses on developing and integrating clinical skills and engaging in clinical decision-making with various patient populations. Students are evaluated by the Clinical Instructor using the APTA PT CPI Web (2006) and are expected to be at entry-level performance upon completion of this course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PHTH 9774. Administration of Health Professions Academic Programs. 3 Credit Hours.
This course examines the organization of universities with an emphasis on administration of professional graduate programs, program and faculty evaluation and development, funding, admissions, professional accreditation, clinical education, and state licensure. Required for Ph.D. students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHTH 9787. Teaching Practicum. 1 to 3 Credit Hour.
Practicum in teaching in the professional physical therapy curriculum. Students contract with a faculty member for guided development, presentation and evaluation of a course segment based on principles and concepts covered in PHTH 9673.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PHTH 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
This course is limited to Ph.D. students who have completed all their coursework and are finishing qualifying examinations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PHTH 9998. Dissertation Proposal. 1 to 3 Credit Hour.
Students are expected to prepare and submit a dissertation proposal in the form of a grant proposal and successfully defend it orally before their Dissertation Committee. As appropriate, they must obtain IRB approval for their proposed research, and submit a copy of the grant proposal to the Graduate School. Students are expected to have developed and defended their dissertation grant proposal within one year of successfully completing their preliminary examination.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PHTH 9999. Dissertation Research and Colloquium. 1 to 4 Credit Hour.
This course is limited to Ph.D. students who have passed preliminary examinations. Continuous registration in the Fall and Spring semesters is required until the oral defense has been passed. Students are required to attend a colloquium held once a month to review and discuss progress to date.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.

Physician Assistant (PA)
Courses

PA 8101. Physician Assistant Practice I. 1 Credit Hour.
This is a Physician Assistant one-credit lecture/seminar. Physician Assistant Practice I is the first of a four-course series that explores the social, regulatory, ethical and professional aspects of becoming a physician assistant. This first course will review the societal aspects of the profession that include the history of the physician assistant profession, how PAs fit into the U.S. healthcare system, professionalism, the PA-physician supervisor relationship and PA scope of practice. Students will be introduced to the concepts of effective communication skills with patients and other healthcare providers. Students will also learn about patient motivators to incorporate healthy behaviors and how various stakeholders to good health influence patients and healthcare providers in health promotion and disease prevention.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.

PA 8102. Patient Assessment I. 1 Credit Hour.
This is a Physician Assistant one-credit lecture/seminar. Patient Assessment I is the first of a four-part progressive sequence of learning that introduces the critical skills and concepts of physical examination and history taking that are necessary for the practice as Physician Assistants in contemporary society. Students will learn interview and examination techniques along with appropriate counseling and patient education skills. This course consists of an integrated series of lectures, small-group discussions, simulated patient encounters, and clinical correlation exercises. The course provides instruction in fundamental clinical skills that include: taking a patient history, performing a physical examination of a normal adult, and basic case presentation. Professionalism and the student's emerging role as a healthcare provider are addressed throughout the course. Activities are integrated with the science curriculum whenever possible.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.

PA 8103. Human Gross Anatomy. 5 Credit Hours.
This is a Physician Assistant five credit course with focus on the study of functional and applied human anatomy. Each topic will utilize lecture and lab experiences, which include human cadaver specimens. When appropriate, clinical and surgical correlations are made from a diagnostic as well as an operative point of view. Instruction is primarily in lecture and laboratory format. Textbooks, atlases, computer software programs, and other visual aids are available for study. Applied learning based on clinically relevant cases will be emphasized.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.

PA 8104. Introduction to Scientific Inquiry. 1 Credit Hour.
This is a Physician Assistant one-credit course offered during Summer Session I. This course is the first course in the preparation of the student for the capstone project that will cumulate at the end of their clerkship year through the Scholarly Clinical Research Courses I and II. It will focus on introducing students to hypothesis directed research approaches that leads to new findings that ultimately impact on the care of patients. Library staff will provide instruction on the use of the library resources available to support research. In addition, students will be introduced to the reading, presentation, interpretation and critique of published manuscripts dealing with current important issues in clinical medicine. Each topic will utilize lecture and class discussion. Students will also be expected to make class presentations of clinically relevant manuscripts. The Introduction to Scientific Inquiry course will be coordinated with the Introduction to Epidemiology and Biostatistics course, which will be running simultaneously.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.
PA 8105. Foundations of Medical Sciences I. 4 Credit Hours.
This is a Physician Assistant four-credit course offered during Summer Session I. It will focus on reviewing and extending basic fundamental knowledge in medical sciences in the areas of biochemistry, nutrition, molecular biology, genetics, and cell and organ physiology. Mastery of this information is necessary to progress to the organ systems clinical medicine fundamentals courses, which will follow, in subsequent semesters. Each topic will utilize lecture, problem solving, and workshop experiences followed by an examination. Textbooks, PowerPoint presentations prepared by faculty, problem sets prepared by faculty and other visual aids are available for study. Applied learning based on clinically relevant cases will be emphasized.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.

PA 8106. Introduction to Epidemiology and Biostatistics. 2 Credit Hours.
This is a Physician Assistant two-credit course offered during Summer Session I. It will focus on providing an introduction to epidemiology and biostatistics. Concepts will be presented in lecture and reinforced with homework problem sets and workshops. Homework problems and workshops will be designed around clinically important research topics. Topics include measures of disease frequency, probability, overview of the epidemiologic study designs, sample size, hypothesis testing, tests of significance (p-values, confidence intervals, chi-square tests), measures of data quality and bias, multivariate models, survival analysis, and causality. Emphasis will be placed on students being able to apply information taught to the interpretation and critique of clinically relevant research manuscripts.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.

PA 8201. Physician Assistant Practice II. 1 Credit Hour.
This is a Physician Assistant one-credit lecture/seminar course. The Physician Assistant Practice (II) course is the second of a four-course series that explores the social, regulatory, ethical and professional aspects of a physician assistant. This second course will focus on regulatory issues that impact the practice of the physician assistant including the political process, drivers of public health, health policy development, health care financial systems and the contributions of the physician assistant regarding these issues.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.

PA 8202. Patient Assessment II. 1 Credit Hour.
This is a Physician Assistant one-credit lecture/seminar. Patient Assessment II is the second of a four-part progressive sequence of learning that introduces the critical skills and concepts of physical examination and history taking that are necessary for the practice as Physician Assistants in contemporary society. Students will continue to learn interview and examination techniques along with appropriate counseling and patient education skills. Patient Assessment II is designed to build upon the skills acquired in Patient Assessment I. Patient Assessment II is taught throughout the first fall semester of the PA program. This course consists of an integrated series of lectures, small-group discussions, simulated patient encounters, and clinical correlation exercises. The course provides instruction in fundamental clinical skills that include: taking a patient's focused medical history, performing a focused physical examination, and case presentation. The focused history taking and physician exam will include the normal neurological and mental status examination, the cardiology, pulmonary and hematology focused examinations. Professionalism and the student's emerging role as a healthcare provider are addressed throughout the course. Activities are integrated with the science curriculum whenever possible.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.
PA 8203. Foundations of Medical Sciences II. 4 Credit Hours.
This is a Physician Assistant four-credit course offered during Fall Session I. It will focus on reviewing and extending basic fundamental knowledge in medical sciences in the areas of immunology, microbiology, and pharmacology. Mastery of this information is necessary to progress to the organ systems clinical medicine fundamentals courses, which will follow later in this semester and subsequent semesters. Each area of study will utilize lecture, problem solving, and workshop experiences followed by an examination. Textbooks, PowerPoint presentations prepared by faculty, problem sets prepared by faculty and other visual aids are available for study. Applied learning based on clinically relevant cases will be emphasized.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.

PA 8204. Fundamentals of Hematology. 3 Credit Hours.
This is a Physician Assistant, three-credit course. Fundamentals of Hematology is a course that provides the physiology and pathophysiology, diagnostic evaluation and initial therapeutic approach of hematological diseases. It is one of the integrated system blocks that are taught by basic-science faculty from the Departments of Physiology and Pharmacology as well as physician assistants and physician faculty from the Departments of Internal Medicine and Cardiology. This course is an integrated series of lectures, small-group discussions, simulated patient encounters, and clinical correlation exercises using high-fidelity patient mannequins. The course provides instruction in clinical application of hematological basic science principals, focused physical examination techniques (in conjunction with Patient Assessment II), the initial use of diagnostic tests in the evaluation of hematological disease, the initial therapeutic approach to a variety of hematological diseases and the communication skills necessary for providing patient education on hematological diseases.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.

PA 8205. Fundamentals of Cardiology. 4 Credit Hours.
This Physician Assistant four-credit course, Fundamentals of Cardiology is a fall semester course that provides the physiology and pathophysiology, diagnostic evaluation and initial therapeutic approach of cardiovascular diseases. This course is an integrated series of lectures, small-group discussions, simulated patient encounters, and clinical correlation exercises using high-fidelity patient mannequins. The course provides instruction in clinical application of cardiovascular basic science principals, focused cardiovascular physical examination techniques (in conjunction with Patient Assessment II), the initial use of diagnostic tests in the evaluation of cardiovascular disease, the initial therapeutic approach to a variety of cardiovascular diseases and the communication skills necessary for providing patient education on cardiovascular diseases.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.

PA 8206. Fundamentals of Pulmonology. 4 Credit Hours.
This Physician Assistant four-credit course, Fundamentals of Pulmonology, is a fall semester course that provides the physiology and pathophysiology, diagnostic evaluation and initial therapeutic approach of pulmonary diseases. It is the second of the integrated system courses that is taught by basic-science faculty from the Departments of Physiology and Pharmacology as well as physician assistants and physician faculty from the Departments of Internal Medicine, Surgery and Radiology. This course is an integrated series of lectures, small-group discussions, simulated patient encounters, and clinical correlation exercises using high-fidelity patient mannequins. The course provides instruction in clinical application of the pulmonary system’s basic science principals, focused pulmonary physical examination techniques (in conjunction with Patient Assessment II), the initial use of diagnostic tests in the evaluation of respiratory disease, the initial therapeutic approach to a variety of respiratory diseases and the communication skills necessary for providing patient education on pulmonary/respiratory diseases.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.
PA 8207. Fundamentals of Gastroenterology. 3 Credit Hours.
This Physician Assistant three-credit course, Fundamentals of Gastroenterology, is a course that provides the physiology and pathophysiology, diagnostic evaluation and initial therapeutic approach of Gastroenterology diseases. It is one of the integrated system courses that are taught by basic-science faculty from the Departments of Physiology and Pharmacology as well as physician assistants and physician faculty from the Department of Medicine/Gastroenterology. This course is an integrated series of lectures, small-group discussions, simulated patient encounters, and clinical correlation exercises. The course provides instruction in clinical application of Gastroenterology basic science principles, focused Gastroenterology physical examination techniques (in conjunction with Patient Assessment III), the initial use of diagnostic tests in the evaluation of Gastroenterology disease, the therapeutic approach to a variety of Gastroenterology diseases and the communication skills necessary for providing patient education on Gastroenterology diseases.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.

PA 8301. Physician Assistant Practice III. 1 Credit Hour.
This is a Physician Assistant one-credit lecture/seminar course. The Physician Assistant Practice (III) is the third of a four-course series that explores the social, regulatory, ethical and professional aspects of physician assistant practice. This third course will focus on the ethical aspects of the profession that serve to enhance care and to protect patients and healthcare workers.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.

PA 8302. Patient Assessment III. 1 Credit Hour.
This is a Physician Assistant one-credit lecture/seminar course. Patient Assessment III is the third of a four-part progressive sequence of learning that introduces the critical skills and concepts of physical examination and history taking that are necessary for the practice as Physician Assistants in contemporary society. Students will continue to learn interview and examination techniques along with appropriate counseling and patient education skills. Patient Assessment is designed to build upon the skills acquired in Patient Assessment I and II. This course consists of an integrated series of lectures, small-group discussions, simulated patient encounters, and clinical correlation exercises. The course provides instruction in fundamental clinical skills that include: taking a patient's focused medical history, performing a focused physical examination, and case presentation. The medical history taking and physician exam will focus on the skin exam, EENT, abdominal, musculoskeletal and neurological examinations and the findings associated with diseases and disorders of these corresponding systems. Professionalism and the student's emerging role as a healthcare provider are addressed throughout the course. Activities are integrated with the science curriculum whenever possible.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.

PA 8303. Fundamentals of Nephrology. 2 Credit Hours.
This Physician Assistant two-credit course, Fundamentals of Nephrology is a Spring I semester course that provides the physiology and pathophysiology, diagnostic evaluation and initial therapeutic approach of renal diseases. It is one of the integrated system courses that are taught by basic-science faculty from the Departments of Physiology and Pharmacology as well as physician assistants and physician faculty from the Departments of Medicine/Nephrology. By the end of the Fundamentals of Nephrology course, the physician assistant student will: Evaluate Nephrology diseases that are commonly found in primary care medicine in relation to the etiology, epidemiology and pathophysiology for patients presenting with Nephrology diseases and disorders; Recognize the signs and symptoms commonly linked with specific Nephrology diseases and formulate a comprehensive differential diagnosis; Select the appropriate diagnostic testing and procedures used in the evaluation and management of Nephrology disease; Classify the diagnostic test and procedure results as they relate to disease of the Nephrology system; Choose the most appropriate pharmacologic and non-pharmacologic treatment and management options for the Nephrology disorders studied; Assess a clinical situation as a basis for referral to a Nephrology specialist; Decide on the necessary examination and procedures required for the diagnosis and management of kidney disorders.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.
PA 8304. Fundamentals of Endocrinology. 3 Credit Hours.
This is a Physician Assistant three-credit course. Fundamentals of Endocrinology is a Spring I semester course that provides the physiology and pathophysiology, diagnostic evaluation and initial therapeutic approach of Endocrinologic diseases. It is one of the integrated system courses that are taught by basic-science faculty from the Departments of Physiology and Pharmacology as well as physician assistants and physician faculty from the Departments of Medicine/Division of Endocrinology. This course is an integrated series of lectures, small-group discussions, simulated patient encounters, and clinical correlation exercises. The course provides instruction in clinical application of Endocrinology basic science principles, focused physical examination techniques (in conjunction with Patient Assessment III), the initial use of diagnostic tests in the evaluation of Endocrinology disease, the therapeutic approach to a variety of Endocrinology disorders and the communication skills necessary for providing patient education on Endocrinology diseases.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.

PA 8305. Fundamentals of Ears/Eyes/Nose/Throat (EENT). 2 Credit Hours.
This is a Physician Assistant two-credit course. Fundamentals of Ears/Eyes/Nose/Throat (EENT) is a Spring I semester course that provides the physiology and pathophysiology, diagnostic evaluation and initial therapeutic approach of EENT diseases. It is one of the integrated system courses that are taught by basic-science faculty from the Departments of Physiology and Pharmacology as well as physician assistants and physician faculty from the Departments of Internal Medicine/Ophthalmology and otolaryngology.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.

PA 8306. Fundamentals of Neurology. 2 Credit Hours.
This Physician Assistant two-credit course, Fundamentals of Neurology is a Spring I semester course that provides the physiology and pathophysiology, diagnostic evaluation and initial therapeutic approach of neurological diseases. It is one of the integrated system courses that are taught by basic-science faculty from the Departments of Physiology and Pharmacology as well as physician assistants and physician faculty from the Departments of Internal Medicine and the Department of Neurology. This course is an integrated series of lectures, small-group discussions, simulated patient encounters, and clinical correlation exercises. The course provides instruction in clinical application of Neurological basic science principles, focused Neurological physical examination techniques (in conjunction with Patient Assessment III), the initial use of diagnostic tests in the evaluation of Neurological disease, the therapeutic approach to a variety of Neurological diseases and the communication skills necessary for providing patient education on Neurological diseases and disorders.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.

PA 8307. Fundamentals of Rheumatology and Orthopedics. 3 Credit Hours.
This is a Physician Assistant, three-credit course. Fundamentals of Rheumatology and Orthopedics is a Spring I semester course that provides the physiology and pathophysiology, diagnostic evaluation and initial therapeutic approach of renal diseases. It is one of the integrated system courses that are taught by basic-science faculty from the Departments of Physiology and Pharmacology as well as physician assistants and physician faculty from the Departments of Medicine/Rheumatology and the Department of Orthopedic Surgery. This course is an integrated series of lectures, small-group discussions, simulated patient encounters, and clinical correlation exercises. The course provides instruction in clinical application of Rheumatology and Orthopedics basic science principles, focused Rheumatology and Orthopedics physical examination techniques (in conjunction with Patient Assessment III), the initial use of diagnostic tests in the evaluation of musculoskeletal disease, the therapeutic approach to a variety of Rheumatology and Orthopedics diseases and the communication skills necessary for providing patient education on musculoskeletal diseases and disorders.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.
PA 8308. Fundamentals of Dermatology. 2 Credit Hours.
This is a Physician Assistant, two-credit course. Fundamentals of Dermatology is a Spring I semester course that provides the physiology and pathophysiology, diagnostic evaluation and initial therapeutic approach of dermatological diseases. It is one of the integrated system courses that are taught by basic-science faculty from the Departments of Physiology and Pharmacology as well as physician assistants and physician faculty from the Departments of Internal Medicine and Dermatology. This course is an integrated series of lectures, small-group discussions, simulated patient encounters, and clinical correlation exercises. The course provides instruction in clinical application of dermatological basic science principles, focused dermatological physical examination techniques (in conjunction with Patient Assessment II), the initial use of diagnostic tests in the evaluation of dermatological disease, the therapeutic approach to a variety of dermatological disorders and the communication skills necessary for providing patient education on dermatological diseases.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.
Repeatability: This course may not be repeated for additional credits.

PA 8309. Essentials of Psychiatry. 2 Credit Hours.
This is a Physician Assistant two-credit lecture/seminar. Essentials of Psychiatry is a Spring I semester course that provides the physiology and pathophysiology, diagnostic evaluation and initial therapeutic approach of psychiatric diseases. It is one of the integrated system courses that are taught by basic-science faculty from the Departments of Physiology and Pharmacology as well as physician assistants and physician faculty from the Departments of Internal Medicine and the Department of Psychiatry. This course is an integrated series of lectures, small-group discussions, simulated patient encounters, and clinical correlation exercises. The course provides instruction in clinical application of psychiatric basic science principles, focused psychiatric physical examination techniques (in conjunction with Patient Assessment IV), the initial use of diagnostic tests in the evaluation of psychiatric disease, the therapeutic approach to a variety of psychiatric diseases and the communication skills necessary for providing patient education on psychiatric diseases and disorders.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.
Repeatability: This course may not be repeated for additional credits.

PA 8401. Physician Assistant Practice IV. 1 Credit Hour.
This is a Physician Assistant one-credit lecture/seminar course. The Physician Assistant Practice (IV) course is the last of a four-course series that explores the social, regulatory, ethical and professional aspects of physician assistant practice. This fourth course will focus on the topics pertinent to employment and practice of a physician assistant including licensing and credentialing, medical coding bills, avoiding malpractice, healthcare financing and delivery systems along with career and leadership opportunities. Students will continue to work on their professional portfolios.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.
Repeatability: This course may not be repeated for additional credits.

PA 8402. Patient Assessment IV. 1 Credit Hour.
Patient Assessment IV is the last course of a four-part progressive sequence of learning that introduces the critical skills and concepts of physical examination and history taking that are necessary for the practice as Physician Assistants in contemporary society. Students will continue to learn interview and examination techniques along with appropriate counseling and patient education skills. Patient Assessment is designed to build upon the skills acquired in Patient Assessment I - III. Overviews of clinical skills and patient management principles are presented in lectures, and rehearsed in small-group, hands-on settings in the Clinical Simulation Center. Simulated patients, physician assistant faculty, and high-fidelity patient mannequins are used throughout the course. Students participate in formative Practice Clinical Encounters, after which they review and critique their performance with their program faculty instructor.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.
Repeatability: This course may not be repeated for additional credits.
PA 8403. Bioethics. 2 Credit Hours.
This is a Physician Assistant two-credit lecture/seminar. Bioethics is a Summer II semester course and consists of lecture and small group work. The course will focus on practical principles related to medical ethics and professionalism which includes topics related to professional conduct, cultural awareness and ethical problem solving using clinical scenarios. The overarching goal of this course is to provide students with the competences to interact professionally and ethically with patients, families and other health care providers, as well as to prepare them to engage in bioethics policy related discussions and decisions, whether at the level of the individual clinic, hospital, city, state, or federal government.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.

PA 8404. Essentials of Men's and Women's Health. 4 Credit Hours.
This is a Physician Assistant four-credit lecture/seminar. This Essentials of Men's and Women's Health course is a Summer II semester course that provides the physiology and pathophysiology, diagnostic evaluation and initial therapeutic approach of diseases affecting the female and male genitourinary system. It is one of the integrated system courses that are taught by basic-science faculty from the Departments of Physiology and Pharmacology as well as physician assistants and physician faculty from the Departments of Internal Medicine, Obstetrics and Gynecology, Urology and Surgery. This course is an integrated series of lectures, small-group discussions, simulated patient encounters, and clinical correlation exercises using high-fidelity patient mannequins. The course provides instruction in clinical application of basic science principles, focused physical examination techniques (in conjunction with Patient Assessment IV), the initial use of diagnostic tests in the evaluation of disease affecting the female and male genitourinary system, the initial therapeutic approach to a variety of diseases and the communication skills necessary for providing patient education on these diseases.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.

PA 8405. Essentials Across the Lifespan. 4 Credit Hours.
This is a Physician Assistant four-credit lecture/seminar. This four-credit course, Essentials Across the Lifespan is a summer II semester course that provides the physiology and pathophysiology, diagnostic evaluation and initial therapeutic approach of common diseases and conditions affecting infants, children, adolescents and older adults. It is one of the integrated system courses that are taught by basic-science faculty from the Departments of Physiology and Pharmacology as well as physician assistants and physician faculty from the Departments of Pediatrics and Internal Medicine. This course is an integrated series of lectures, small-group discussions, simulated patient encounters, and clinical correlation exercises using high-fidelity patient mannequins. The course provides instruction in clinical application of basic science principles, focused physical examination techniques (in conjunction with Patient Assessment IV), the initial use of diagnostic tests, the initial therapeutic approach and the communication skills necessary for providing patient education of common outpatient diseases and conditions.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.

PA 8406. Essentials of Surgery and Emergency Medicine. 4 Credit Hours.
This is a Physician Assistant four-credit lecture/seminar. Essentials of Surgery and Emergency Medicine is a summer II semester course that provides the physiology and pathophysiology, diagnostic evaluation and initial therapeutic approach of surgical/emergent disease and disorders. It is one of the integrated system courses that are taught by basic-science faculty from the Departments of Physiology and Pharmacology as well as physician assistants and physician faculty from the Departments of Surgery and Emergency Medicine. This course is an integrated series of lectures, small-group discussions, simulated patient encounters, and clinical correlation exercises. The course provides instruction in clinical application of Surgical and Emergency Medicine basic science principles, with focus on the Surgical and Emergency evaluation and treatment modalities. Physical examination techniques (in conjunction with Patient Assessment IV), the use of diagnostic tests in the evaluation of Surgical and Emergency disorders, the therapeutic approach to the spectrum of these disorders and the communication skills necessary for providing patient education will be given.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.
PA 9085. Family Medicine Clerkship. 5 Credit Hours.
This is a 5-week clinical course designed to provide the physician assistant student with experience in evaluating and treating common problems encountered in Family Medicine. Experience is provided at the level of a primary care physician assistant.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.

PA 9086. Elective Clerkship in Medicine Subspecialties. 5 Credit Hours.
This is a 5-week clinical course designed to provide the physician assistant student with experience in data gathering, evaluation and management of common problems encountered in the practice of a Medicine Subspecialty chosen by the student. These may include one of the following: Cardiology, Endocrinology, Gastroenterology, Hepatology, Hematology/Oncology, Hospital Medicine, Infectious Disease, Nephrology or Rheumatology. Students may participate in the management of patients in both the inpatient and outpatient setting under the supervision of physicians and physician assistants. Experience is provided at the level of a primary care physician assistant.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(PA 8401|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8402|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8403|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8404|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8405|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8406|Minimum Grade of C-|May not be taken concurrently)
AND (PA 9991|Minimum Grade of C-|May not be taken concurrently)

PA 9087. Elective Clerkship in Urology. 5 Credit Hours.
This is a 5-week clinical course designed to provide the physician assistant student with experience in data gathering, evaluation and management of common problems encountered in Urology. Students may participate in the management of the surgical patient during the pre-operative phase, assist during surgery and other procedures, and provide post-operative care management under the supervision of physicians and physician assistants. Experience is provided at the level of a primary care physician assistant.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(PA 8401|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8402|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8403|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8404|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8405|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8406|Minimum Grade of C-|May not be taken concurrently)
AND (PA 9991|Minimum Grade of C-|May not be taken concurrently)

PA 9182. Independent Study. 1 to 6 Credit Hour.
This is a Physician Assistant, variable credit Independent Study (1-6 credits) course. This course is designed to provide the student with an opportunity to gain or enhance knowledge and to explore an area of interest related to physician assistant research or the delivery and/or administration of health services.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may be repeated for additional credit.
PA 9185. Internal Medicine Clerkship. 5 Credit Hours.
This is a 5-week clinical course designed to provide the physician assistant student with experience in evaluating and treating common problems encountered in Internal Medicine. Experience is provided at the level of a primary care physician assistant.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.

PA 9186. Elective Clerkship in Neurology. 5 Credit Hours.
This is a 5-week clinical course designed to provide the physician assistant student with experience in data gathering, evaluation and management of common problems encountered in the practice of Neurology. Students may participate in the management of Neurological patients both in the inpatient and outpatient setting under the supervision of physicians and physician assistants. Experience is provided at the level of a primary care physician assistant.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(PA 8401 Minimum Grade of C-|May not be taken concurrently)
AND (PA 8402 Minimum Grade of C-|May not be taken concurrently)
AND (PA 8403 Minimum Grade of C-|May not be taken concurrently)
AND (PA 8404 Minimum Grade of C-|May not be taken concurrently)
AND (PA 8405 Minimum Grade of C-|May not be taken concurrently)
AND (PA 8406 Minimum Grade of C-|May not be taken concurrently)
AND (PA 9991 Minimum Grade of C-|May not be taken concurrently)

PA 9285. Emergency Medicine Clerkship. 5 Credit Hours.
This is a 5-week clinical course designed to provide the physician assistant student with experience in evaluating and treating common problems encountered in Emergency Medicine. Experience is provided at the level of a primary care physician assistant.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.

PA 9286. Elective Clerkship in Neurosurgery. 5 Credit Hours.
This is a 5-week clinical course designed to provide the physician assistant student with experience in data gathering, evaluation and management of common problems encountered in Neurosurgery. Students may participate in the management of the neurosurgical patient during the pre-operative phase, assist during surgery and other procedures, and provide post-operative care management under the supervision of physicians and physician assistants. Experience is provided at the level of a primary care physician assistant.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(PA 8401 Minimum Grade of C-|May not be taken concurrently)
AND (PA 8402 Minimum Grade of C-|May not be taken concurrently)
AND (PA 8403 Minimum Grade of C-|May not be taken concurrently)
AND (PA 8404 Minimum Grade of C-|May not be taken concurrently)
AND (PA 8405 Minimum Grade of C-|May not be taken concurrently)
AND (PA 8406 Minimum Grade of C-|May not be taken concurrently)
AND (PA 9991 Minimum Grade of C-|May not be taken concurrently)
PA 9385. Obstetrics/Gynecology Clerkship. 5 Credit Hours.
This is a 5-week clinical course designed to provide the physician assistant student with experience in evaluating and treating common problems encountered in obstetrics and gynecology. Experience is provided at the level of a primary care physician assistant.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.

PA 9386. Elective Clerkship in Ophthalmology. 5 Credit Hours.
This is a 5-week clinical course designed to provide the physician assistant student with experience in data gathering, evaluation and management of common problems encountered in Ophthalmology. Students may participate in the management of the ophthalmological patient during the pre-operative phase, assist during surgery and other procedures, and provide post-operative care management under the supervision of physicians and physician assistants. Experience is provided at the level of a primary care physician assistant.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(PA 8401|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8402|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8403|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8404|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8405|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8406|Minimum Grade of C-|May not be taken concurrently)
AND (PA 9991|Minimum Grade of C-|May not be taken concurrently)

PA 9485. Surgery Clerkship. 5 Credit Hours.
This is a 5-week clinical course designed to provide the physician assistant student with experience in data gathering, evaluating and managing common problems encountered in surgery. Students will participate in management of surgical patient during the pre-operative phase, assist during surgery and other procedures, and provide post-operative care management under the supervision of physicians and physician assistants. Experience is provided at the level of a primary care physician assistant.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.

PA 9486. Elective Clerkship in Orthopaedic Surgery and Sports Medicine. 5 Credit Hours.
This is a 5-week elective clinical course designed to provide the physician assistant student with experience in data gathering, evaluation and management of common problems encountered in Orthopaedic Surgery and Sports Medicine. This rotation can be customized to the student's interests. Time can be spent on the different Orthopaedic Services including Trauma, Joints, Sports, Spine, and Hand Surgery. Competency in evaluating and managing patients with the following conditions will be expected: trauma, degenerative and inflammatory arthritis, sports injuries, spine deformity and degenerative conditions, hand injuries and arthritis conditions, musculoskeletal infections, and metastatic musculoskeletal disease. The student will accompany a staff member and residents in outpatient orthopaedic clinics. The student will assist in the operating room and hospital rounds. Emergency care of the injured patient will also be emphasized.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated in one of the following Levels: Graduate.

Pre-requisites:
(PA 8401|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8402|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8403|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8404|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8405|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8406|Minimum Grade of C-|May not be taken concurrently)
AND (PA 9991|Minimum Grade of C-|May not be taken concurrently)
PA 9585. Behavioral Medicine Clerkship. 5 Credit Hours.
This is a 5-week clinical course designed to provide the physician assistant student with experience in evaluating and treating common problems encountered in Behavioral Medicine. Experience is provided at the level of a primary care physician assistant.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.

PA 9586. Elective Clerkship in Otolaryngology. 5 Credit Hours.
This is a 5-week clinical course designed to provide the physician assistant student with experience in data gathering, evaluation and management of common problems encountered in Otolaryngology. Students may participate in the management of the otolaryngology patient during the pre-operative phase, assist during surgery and other procedures, and provide post-operative care management under the supervision of physicians and physician assistants. Experience is provided at the level of a primary care physician assistant.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Pre-requisites:
(PA 8401|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8402|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8403|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8404|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8405|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8406|Minimum Grade of C-|May not be taken concurrently)
AND (PA 9991|Minimum Grade of C-|May not be taken concurrently)

PA 9685. Pediatric Medicine Clerkship. 5 Credit Hours.
This is a 5-week clinical course designed to provide the physician assistant student with experience in evaluating and treating common problems encountered in pediatrics. Experience is provided at the level of a primary care physician assistant.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(PA 8401|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8402|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8403|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8404|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8405|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8406|Minimum Grade of C-|May not be taken concurrently)
AND (PA 9991|Minimum Grade of C-|May not be taken concurrently)

PA 9686. Elective Clerkship in Physical Medicine and Rehabilitation. 5 Credit Hours.
This is a 5-week clinical course designed to provide the physician assistant student with experience in data gathering, evaluation and management of common problems encountered in the practice of Physical Medicine and Rehabilitation. Students may participate in the management of Physical Medicine and Rehabilitation patients both in the inpatient and outpatient setting under the supervision of physicians and physician assistants. Experience is provided at the level of a primary care physician assistant.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Pre-requisites:
(PA 8401|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8402|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8403|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8404|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8405|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8406|Minimum Grade of C-|May not be taken concurrently)
AND (PA 9991|Minimum Grade of C-|May not be taken concurrently)
PA 9785. Elective Clerkship I. 5 Credit Hours.
This is one of two 5-week clinical elective courses designed to provide the physician assistant with exposure to likely areas of medical practice of interest to the student. Potential areas include but are not limited to the following: Cardiology, Pulmonology, Orthopedic Surgery, Trauma Surgery, Gastroenterology. The physician assistant student will be provided experience in evaluating and treating common problems encountered in the area of their chosen elective.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.

PA 9786. Elective Clerkship in Radiology. 5 Credit Hours.
This is a 5-week clinical course designed to provide the physician assistant student with experience in data gathering, evaluation and management of common procedures encountered in the practice of Radiology. Students may be involved in the obtaining and interpreting of medical images obtained with x-rays, radioactive substances, magnetism or ultrasound in both the inpatient and outpatient setting under the supervision of physicians and physician assistants. Experience is provided at the level of a primary care physician assistant.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(PA 8401|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8402|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8403|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8404|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8405|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8406|Minimum Grade of C-|May not be taken concurrently)
AND (PA 9991|Minimum Grade of C-|May not be taken concurrently)

PA 9885. Elective Clerkship II. 5 Credit Hours.
This is one of two 5-week clinical elective courses designed to provide the physician assistant with exposure to likely areas of medical practice of interest to the student. Potential areas include but are not limited to the following: Cardiology, Pulmonology, Orthopedic Surgery, Trauma Surgery, Gastroenterology. The physician assistant student will be provided experience in evaluating and treating common problems encountered in the area of their chosen elective.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.

PA 9886. Elective Clerkship in Surgical Subspecialties. 5 Credit Hours.
This is a 5-week clinical course designed to provide the physician assistant student with experience in data gathering, evaluation and management of common problems encountered in the Surgical Subspecialty chosen by the student. These may include one of the following: Abdominal Organ Transplant, Cardiovascular Surgery, Colorectal Surgery, Minimally Invasive Surgery, Plastic and Reconstructive Surgery, Surgical Oncology, Trauma Surgery and Critical Care, or Vascular and Endovascular Surgery. Students may participate in the management of the surgical patient during the pre-operative phase, assist during surgery and other procedures, and provide post-operative care management under the supervision of physicians and physician assistants. Experience is provided at the level of a primary care physician assistant.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(PA 8401|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8402|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8403|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8404|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8405|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8406|Minimum Grade of C-|May not be taken concurrently)
AND (PA 9991|Minimum Grade of C-|May not be taken concurrently)
PA 9985. Elective Clerkship in Dermatology. 5 Credit Hours.
This is a 5-week clinical course designed to provide the physician assistant student with experience in data gathering, evaluation and management of common problems encountered in Dermatology. Students may also participate in the management of the dermatologic patient during the pre-operative phase, assist during surgery and other procedures, and provide post-operative care management under the supervision of physicians and physician assistants. Experience is provided at the level of a primary care physician assistant.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(PA 8401|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8402|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8403|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8404|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8405|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8406|Minimum Grade of C-|May not be taken concurrently)
AND (PA 9991|Minimum Grade of C-|May not be taken concurrently)

PA 9986. Elective Clerkship in Thoracic Medicine and Surgery. 5 Credit Hours.
This is a 5-week clinical course designed to provide the physician assistant student with experience in data gathering, evaluation and management of common problems encountered in Thoracic Medicine and Surgery. Students may participate in the management of the thoracic medicine and surgery patient during the pre-operative phase, assist during surgery and other procedures, and provide post-operative care management in both the in-patient and out-patient setting under the supervision of physicians and physician assistants. Experience is provided at the level of a primary care physician assistant.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(PA 8401|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8402|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8403|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8404|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8405|Minimum Grade of C-|May not be taken concurrently)
AND (PA 8406|Minimum Grade of C-|May not be taken concurrently)
AND (PA 9991|Minimum Grade of C-|May not be taken concurrently)

PA 9991. Scholarly Clinical Research I. 1 Credit Hour.
This is a Physician Assistant one-credit course. Scholarly Clinical Research I is a summer II semester course and is the first of a two-part series. In the first part of the series, students will plan and develop the goals and background information for their capstone clinical research project that will culminate in the second part during the summer III semester. This course builds upon the concepts presented in the first semester's Introduction to Scientific Inquiry (PA 8104) course. Students will be expected based on their experiences in the first three semesters in the program to select a topic and a graduate faculty mentor for their capstone clinical research project at the beginning of the semester. Topics must be in 1 of 4 potential general areas: Basic Research, Community-Based Research, Evidence-Based Medicine Research or Translational Research. The topic of the project and the mentor must be approved by the course director. Working with the Program approved graduate faculty mentor, the students will develop the specific objective(s)/hypothesis of their project and research the background literature pertinent to the project. At the end of the semester, the students will submit a research paper providing this information in a publishable form. The student will be expected to continue the development and production of this proposal throughout the Fall II, Spring II and Summer III semesters.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School.

Repeatability: This course may not be repeated for additional credits.
PA 9993. Comprehensive Review. 2 Credit Hours.
This two-credit review course employs lectures, small-group discussions, self-assessments, and a comprehensive written examination to measure clinical learning in preparation for graduation from the physician assistant program. In addition, this course will prepare students to challenge the National Commission on the Certification of Physician Assistants (NCCPA) Physician Assistant National Certifying Examination (PANCE) that all must pass to function as a physician assistant.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant. 
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate. 
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School. 

Repeatability: This course may be repeated for additional credit.

PA 9995. Scholarly Clinical Research II. 1 Credit Hour.
This one-credit course, Scholarly Clinical Research II, will be taken in the third summer of the PA Program and is the second of a two-part series focusing on scholarly research. This interactive course will build upon the concepts presented in the first semester's Introduction to Scientific Inquiry (PA 8104) and Scholarly Clinical Research I (PA 9991) courses. Working with their Program-approved graduate faculty mentor, the student will complete their capstone research during fall II, spring II, and summer III. At the conclusion of the course, the student will be required to complete the paper begun as part of Scholarly Clinical Research I by describing the results of their project and discussing them in the context of the available published literature. In addition, the students will prepare a poster for presentation of their capstone project at the specified PA Research Day.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Physician Assistant. 
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate. 
College Restrictions: Must be enrolled in one of the following Colleges: Medicine, Lewis Katz School. 

Repeatability: This course may be repeated for additional credit. 

Pre-requisites: 
(PA 8104|Minimum Grade of B-|May not be taken concurrently) 
AND (PA 9991|Minimum Grade of B-|May not be taken concurrently)

Physics (PHYS)

Courses

PHYS 5001. Introduction to Quantum Computing. 3 Credit Hours.
This course will give an elementary introduction to some basics of quantum information and quantum computing that are accessible to not only physicists but also people with a variety of backgrounds. It will introduce the students to the latest scientific and technological advancement, and prepare for further study and/or initiating research if one wishes to pursue in this field.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate. 

Repeatability: This course may not be repeated for additional credits. 

PHYS 5002. Physics Research and Ethics. 1 Credit Hour.
This course will introduce new graduate students to the diverse faculty research programs in physics at Temple, and help them to make an informed choice of research advisor and topic. It will also make sure that all students are aware of the ethical code for physicists. The course will meet for one hour per week. In the first 3 to 5 weeks, the instructor will lecture on the ethical and etiquette responsibilities of students, teachers, and researchers in physics. In each of the next 10 to 12 weeks, a faculty volunteer will explain his or her research program and opportunities for student participation in it. A faculty member may also nominate a graduate student to speak to the class. Former graduate students who hold physics research positions could also be invited to speak. Students will have ample opportunity to ask questions. They will be required to turn in one-page summaries of the lectures for grading by the lecturers; this should measure the students' understanding and improve their writing skills. A possible text for the ethics lectures would be the National Academy of Sciences booklet "On Being a Scientist".

Department Restrictions: Must be enrolled in one of the following Departments: CST:Physics. 
Field of Study Restrictions: Must be enrolled in one of the following Majors: Physics. 
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate. 

Repeatability: This course may not be repeated for additional credits.
PHYS 5101. Analytical Mechanics I. 3 Credit Hours.
Variational principles, Lagrange's and Hamilton's equations; canonical transformations; small oscillations; dynamics of particles, rigid bodies, strings and membranes; hydrodynamics; chaos in deterministic systems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHYS 5301. Electromagnetic Theory. 3 Credit Hours.
Boundary value problems of the electrostatic and magnetostatic fields; Maxwell's equations; plane waves at boundaries in dielectric and conducting media; potentials in the Lorentz gauge; Green's functions for wave and Helmholtz equations; multipole radiation; material dispersion; diffraction.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHYS 5302. Electromagnetic Theory. 3 Credit Hours.
Maxwell stress tensor; relativistic dynamics; Lagrangian formulation of electrodynamics; Noether's theorem; laser resonant cavities and optics of Gaussian beams; Eikonal and geometrical optics limit; synchrotron radiation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
PHYS 5301|Minimum Grade of B-|May not be taken concurrently.

PHYS 5501. Mathematical Physics I. 3 Credit Hours.
Tensor analysis; group theory; complex variable theory; partial differential equations; Sturm-Liouville systems; integral transforms; integral equations and Green's function methods.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHYS 5502. Mathematical Physics II. 3 Credit Hours.
Preliminaries; numerical applicability, survey of algorithms, computer modeling, programming considerations; basic numerical methods; numerical linear algebra; numerical solution to ordinary and partial differential equations; molecular dynamics; Monte Carlo simulations; nonlinear methods.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHYS 5701. Quantum Mechanics I. 3 Credit Hours.
Fundamental principles of quantum mechanics; relation to classical mechanics; Schroedinger and operator formulations; path integrals; Aharonov-Bohm effect; examples of exact solutions; central forces and angular momentum; scattering theory; Bell's theorem.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(PHYS 5101|Minimum Grade of B-|May not be taken concurrently
AND PHYS 5501|Minimum Grade of B-|May not be taken concurrently)

PHYS 5702. Quantum Mechanics II. 3 Credit Hours.
Matrix mechanics; theory of electron spin; Hilbert space formulation of quantum mechanics; transformation theory; theory of rotations; spin and statistics; stationary approximation methods with application to atomic systems; time-dependent perturbation theory; exponential decay.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
PHYS 5701|Minimum Grade of B-|May not be taken concurrently.
PHYS 8001. Practicum Teaching of Physics. 1 Credit Hour.
Required of all graduate teaching assistants in their first semester. Consists of supervised instruction in undergraduate laboratories and a weekly two-hour class.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

PHYS 8004. Problems in Experimental Physics. 1 to 6 Credit Hour.
Special problems in the field of experimental physics. The course is designed to acquaint the student with the research techniques employed in experimental physics.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

PHYS 8005. Problems in Theoretical Physics. 1 to 6 Credit Hour.
Special problems in the field of theoretical physics. The course is designed to acquaint the student with the research techniques employed in theoretical physics.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

PHYS 8020. Topical Seminar II. 3 Credit Hours.
This course considers special topics in Physics, not considered in depth in our other courses.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

PHYS 8030. Topical Seminar III. 3 Credit Hours.
This course considers special topics in Physics, not considered in depth in our other courses.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

PHYS 8050. Physics Seminar. 0 Credit Hours.
This course provides the graduate students with the state of the field knowledge about Physics. Students attend 10 to 12 Colloquium/Seminars per semester given by the experts, mostly drawn from national and international authorities in the field. The students are graded on the basis of their attendance in these seminars, and are encouraged to discuss their research with these visiting experts. Last year's colloquium included among other experts, a Nobel Laureate, Sir Anthony Leggett, 2003.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

PHYS 8102. Statistical Mechanics. 3 Credit Hours.
Review of thermodynamics; kinetic theory; statistical definition of entropy; microcanonical, canonical, and grand canonical ensembles; applications to gases, diatomic molecules, magnetic systems, phase transitions; quantum statistics; ideal boson and fermion systems; Bose-Einstein condensation; black body radiation; models of solids; properties of liquid helium.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**
(PHYS 5501|Minimum Grade of B-|May not be taken concurrently
AND PHYS 5701|Minimum Grade of B-|May not be taken concurrently)
PHYS 8701. Advanced Quantum Mechanics. 3 Credit Hours.
Properties of quantized radiation field; emission, absorption and scattering of photons by atoms; nonrelativistic Lamb shift; Dirac equation: nonrelativistic limit, Lorentz covariance, exact solutions; hole theory; Lagrangian field theory; field quantization; S-matrix; covariant perturbation theory; Feynman rules for QED with application to various processes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
PHYS 5702|Minimum Grade of B-|May not be taken concurrently.

PHYS 8702. Solid State Physics. 3 Credit Hours.
Crystal and x-ray diffraction; lattice vibrations and thermal properties; energy bands and electronic properties; semiconductors; optical and dielectric properties; para-, ferro-, and antiferromagnetism; introduction to superconductivity and superfluidity.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(PHYS 5701|Minimum Grade of B-|May not be taken concurrently)
AND (PHYS 5702|Minimum Grade of B-|May not be taken concurrently)

PHYS 8703. Introduction to Elementary Particles Physics. 3 Credit Hours.
The Standard Model (SM); gauge invariance, non-Abelian gauge theories, SM Lagrangian, electroweak theory and QCD, Higgs mechanism, confinement; experimental considerations: accelerators and detectors, elastic scattering and form factors, deep inelastic scattering and structure functions; advanced topics in the SM: grand unification, neutrino mass, big bang cosmology, dark matter.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(PHYS 5701|Minimum Grade of B-|May not be taken concurrently)
AND (PHYS 5702|Minimum Grade of B-|May not be taken concurrently)

PHYS 8704. Many Electron Theory. 3 Credit Hours.
The course is at an intermediate level and is appropriate for students of experimental and theoretical condensed matter and AMO physics. The course familiarizes students with the theory of correlated electrons and states with broken electron symmetry, it also provides a framework for the description of experimental properties in materials with electron correlations. Topics include: Phenomenology of cohesion in molecules and solids, Many-electron wavefunctions, Functionals and their extrema, Wavefunction variational principles, Hellmann-Feynman theorem, One- and two-particle density matrices, and the electron density Wavefunction vs. density functional methods, Hohenberg-Kohn theorem, Functional derivatives, Uniform electron gas Kohn-Sham spin-density functional theory, Approximate functionals, Linear Response Theory and Stability, Collective Excitations, Superconducting Instability, Magnetic Instabilities, Charge Density Wave Instabilities in low-dimensional systems, Ferromagnetic, Spin and Orbital density wave phases, Instabilities of the Half-Filled Band, BCS Theory of Superconductivity, s, p and d wave pairing, the Integer and Fractional Quantum Hall States, Collective Excitations and Goldstone Modes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Science & Technology.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
PHYS 8702|Minimum Grade of B-|May not be taken concurrently.
PHYS 8705. Advanced Topics in Nuclear and Particle Physics. 3 Credit Hours.
The course is at an intermediate level and is appropriate for students of experimental and theoretical nuclear and particle physics. Topics include: Accelerators, Detectors, Essential elements of data analysis and statistics, Selected advanced topics in QFT, Hard scattering processes and the parton structure of hadrons, Breaking of global and local symmetries (Higgs mechanism), Effective field theory, Neutrino physics, Physics beyond the SM, Nuclear matter under extreme conditions, Overview of nuclear structure and reactions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Science & Technology.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: PHYS 8703|Minimum Grade of B-|May not be taken concurrently.

PHYS 8985. Teach in Higher Ed: Phys. 2 Credit Hours.
Teaching in Higher Ed: Physics. This course focuses on learning theory and the best teaching practices, with the aim of preparing students for effective higher education teaching.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PHYS 9991. Master's Research Projects. 1 to 6 Credit Hour.
Short-term, limited research project or laboratory project in the field. This course is not the capstone project course, nor can it be used for thesis based research. The course is for master's students only, including PSM, MA or MS. This class will not confer full-time program status unless nine credits are taken.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Master of Science, Prof Science Masters.

Repeatability: This course may be repeated for additional credit.

PHYS 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
This course is required for students who are preparing for the preliminary or candidacy examination. Students should enroll after coursework is completed or when preparing for the candidacy exam until the time that the preliminary or candidacy examination is completed. This course will confer full-time status at the minimum credit hour registration limit of one credit. All students must complete a minimum of one credit of this course. Students must complete a total of 6 credit hours of 9994, 9998 and 9999.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PHYS 9995. Capstone Project. 1 to 6 Credit Hour.
Capstone project for master's students including students in PSM, MA or MS. This class will provide full-time status. Students in PSM programs need to register for at least one credit of this course to fulfill program requirements. Additional credits may be required for specific programs. This course will confer full-time status at the minimum credit hour registration limit of one credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Arts, Master of Science, Prof Science Masters.

Repeatability: This course may be repeated for additional credit.

PHYS 9996. Master's Thesis Research. 1 to 6 Credit Hour.
Course for master's thesis research. Only intended for students in thesis bearing master's programs. A minimum of one credit is required. This course will confer full-time status at the minimum credit hour registration limit of one credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
PHYS 9998. Pre-Dissertation Research / Elevation to Candidacy. 1 to 6 Credit Hour.
This course is intended for students who are performing research prior to candidacy. Students can register for this course after required courses are completed. This course will confer full-time status at the minimum credit hour registration limit of one credit. Students must be registered for this course during the semester that they are to be elevated to candidacy examination. Students must complete a total of 6 credit hours of 9994, 9998 and 9999.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

PHYS 9999. Dissertation Research. 1 to 6 Credit Hour.
The course is for Ph.D. students who have been elevated to candidacy. During the course of their candidacy students must complete a minimum of two credits of dissertation research. This course will confer full-time status at the minimum credit hour registration limit of one credit. Students must complete a total of 6 credit hours of 9994, 9998 and 9999.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.
Repeatability: This course may be repeated for additional credit.

Political Science (POLS)

Courses

POLS 8000. Topics in Research Design. 3 Credit Hours.
Students learn how to formulate and justify research questions, situate their research within the scholarly literature, select cases, and address problems related to making causal inferences. An important focus of the course is on the similarities and differences between quantitative and qualitative research designs and their respective strengths and weaknesses.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

POLS 8001. Political Statistics I. 3 Credit Hours.
Required of all M.A. and Ph.D. students. Introductory applied social statistics. Topics covered include descriptive measures, elementary probability theory, hypothesis testing, and correlation and regression analysis. This course explores inductive statistics including: probability and sampling, multivariate contingency tables, analysis of variance, correlation and regression analysis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

POLS 8002. Qualitative Research Methods. 3 Credit Hours.
Required of all Ph.D. students. An examination of some of the major qualitative research approaches in political science -- case studies, comparative historical, institutional, community power studies, etc. The course aims to teach students the basic methods and reasoning procedures for doing advanced research in political science.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
POLS 8001|Minimum Grade of B|May not be taken concurrently
AND (POLS 8003|Minimum Grade of B|May not be taken concurrently)

POLS 8003. Political Statistics II. 3 Credit Hours.
The course offers a thorough coverage of the basic linear regression model. Two-thirds of the class is devoted to the Ordinary Least Squares (OLS) method with a focus on estimation, hypothesis testing, and diagnosing threats to statistical inference. Cross-sectional, time-series, and panel data applications are covered. The remainder of the class introduces students to Maximum Likelihood estimators that address limitations to the OLS model.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
POLS 8001|May not be taken concurrently.
POLS 8101. Government in American Society. 3 Credit Hours.
An introduction to key theoretical and methodological approaches to the study of the major areas in American politics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POLS 8102. American Presidency. 3 Credit Hours.
This course examines the state of Presidency research in political science. The American presidency is evaluated as an institution and as a position of political leadership.

Level Registration Restrictions:Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POLS 8103. Legislative Behavior. 3 Credit Hours.
Analysis and research on legislatures, legislators and the legislative process at national, state, and local levels. Focus on legislative decision-making.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POLS 8104. Politics of Organized Interests. 3 Credit Hours.
Critical examination of the role of interest groups in the American political system. Do interest groups hold government captive and interfere with the democratic process or do they strengthen democratic practice? Why do interest groups form? Do Political Action Committee (PAC) contributions buy votes? Is business the most powerful interest in American society?

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POLS 8105. Public Law. 3 Credit Hours.
A survey of the main political and legal factors affecting the development of the basic constitutional doctrines regarding judicial review, separation of powers, the presidency, foreign affairs, the basic delegated powers of Congress in the areas of regulation of commerce and taxation, and federalism.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POLS 8106. Civil Rights and Liberties. 3 Credit Hours.
A critical overview and exploration of the evolution, and various aspects of U.S. anti-discrimination laws and policies using court decisions as well as political and legal theories.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POLS 8107. Business Politics and Power. 3 Credit Hours.
Course examines the role of business in politics. Includes a review of the most important theoretical approaches that dominate the study of business political activity and its impact on policy outcomes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POLS 8108. American Party System. 3 Credit Hours.
Examines political parties and party systems at the federal and state level, in both historical and contemporary contexts. What are political parties? Who forms them? This course focuses mostly on officeholders and activists to understand political parties in government and political parties as organizations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
POLS 8109. Campaigns, Elections, and Media. 3 Credit Hours.
The role of elections in contemporary American society. Special attention to parties and mass media as managers of campaigns. Factors affecting the voting behavior of the mass public and the link voting provides between the public and policy formation. The role of elections in contemporary American society. Factors affecting the voting behavior of the mass public and the link voting provides between the public and policy formation. Special attention also will be paid to the roles of political parties and mass media.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POLS 8111. American Federalism. 3 Credit Hours.
This graduate seminar investigates how national, state, and local governments interact to create America's unique federal system. We will approach the topic of federalism from historical, legal, fiscal, and comparative perspectives. The dual goals of the course are to improve students' understanding of the key features and changing nature of American federalism and to introduce students to the diverse methodologies and theoretical approaches for studying this complex topic.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POLS 8112. Research in State Politics. 3 Credit Hours.
This course introduces graduate students to the research investigating politics and governance in the American states. Seminar discussions will focus on identifying the questions motivating state politics research, comparing different methodological approaches, and discovering what questions remain unanswered. We also will consider how findings from state politics research might extend to other institutional settings. The goal of the seminar is to stimulate students to conduct their own state politics research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POLS 8113. Politics of Race and Class in America. 3 Credit Hours.
Examines the intersection of race and class in American cities from theoretical and practical perspectives. Readings cover some of the major theories of race and urban poverty going from the "declining significance of race" proponents on the one hand to the "increasing significance of race" theorists on the other end of the spectrum. The course also examines how considerations of race and class have shaped key policy areas such as housing, education, and community development. Finally, the course examines the "new immigration" and its impact on class and race relations within urban areas.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POLS 8114. Community Based Research. 3 Credit Hours.
Engages students in community based research projects that are identified and developed by community-based organizations to address a particular program or policy need that they have encountered. Students work closely with these organizations as they carry out the research. Field-based research is supported by weekly seminar meetings that combine instruction in research methods with substantive examination of community development issues. Students share their experiences from the field during the seminar meetings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POLS 8115. Critique of American Government. 3 Credit Hours.
Special topics course. Subject varies with instructor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POLS 8120. Topics in Public Policy. 3 Credit Hours.
Special topics course. Subject varies with instructor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
POLS 8121. National Public Policy. 3 Credit Hours.
Focuses on the content or substance of contemporary U.S. public policy and developing agendas in several salient areas such as environmental protection, economic development, education, public assistance, drug abuse, and civil rights.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

POLS 8122. Urban Public Policy. 3 Credit Hours.
Explores key areas of urban public policy, such as housing, economic and community development, and education. Examines the political, social, institutional and cultural factors that shape the policy making context and ultimately the policies themselves. Interdisciplinary approach using readings from political science, sociology, economics, planning and social history. Covers major research conducted on policy areas and central debates surrounding them.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

POLS 8124. Public Opinion and Propaganda. 3 Credit Hours.
Survey of the broad field of public opinion research. Topics include: political sophistication, citizen competence, democratic responsiveness, political socialization, attitude formation, and the effects of mass media and political rhetoric.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

POLS 8125. Theories of Policy Making. 3 Credit Hours.
Considers various models of the policy process and policymaking, including those within group, systemic, rational, and institutional approaches. Empirical and normative perspectives are both addressed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

POLS 8130. Topics in American Politics. 3 Credit Hours.
Special topics course. Subject varies with instructor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

POLS 8140. Issues in American Politics. 3 Credit Hours.
Special topics course. Subject varies with instructor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

POLS 8201. Comparative Politics. 3 Credit Hours.
A survey of core theories, methodological approaches and central issues in the comparative study of political systems throughout the world. Issues include state, class, party systems and interest groups, dependency, democracy and autocracy, reform and revolution, ethnic/nationalist conflict, and policymaking in industrial welfare states.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

POLS 8202. Comparative Politics: Western Europe. 3 Credit Hours.
Comparative analysis of political systems in Western Europe. Topics covered include the development of political parties and interest group politics, political economy, the welfare state, democratisation-market liberalization in Eastern Europe, and European integration (EU).

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
POLS 8203. Comparative Politics: Developing Nations. 3 Credit Hours.
What are the ideological, economic, and political processes that have created “First” and “Third” worlds? Is “underdevelopment” a consequence of the international system or are its sources home-grown? What are the connections between economic processes and political change? This course compares rational, structural, and cultural approaches to the study of development.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POLS 8204. Latin American Politics. 3 Credit Hours.
This course will familiarize students with the rich histories of several Latin American countries and introduce region-specific actors and events, in the context of social scientific theorizing of such processes as colonialism, imperialism, regime change, revolution, democratization, identity politics, and issues in political economy.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POLS 8205. Russian and Eastern European Civilizations. 3 Credit Hours.
This course will familiarize students with the political development and transition to democracy in Russia and former republics of the Soviet Union.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POLS 8212. Democratic Politics. 3 Credit Hours.
Free and fair elections are democracy’s defining feature. This course examines the politics surrounding democratic politics, focusing on organizations, institutions, and behavior. In terms of organizations, the course pays close attention to the principle protagonists in democratic elections: political parties. We will explore the origins of political parties in general as well as the conditions giving rise to certain types of political parties. In terms of institutions, the course considers the institutions that shape the selection of political leaders in a democracy and the allocation of power across those elected officials. In particular, we will attend to electoral rules, legislative-executive relations, and the vertical allocation of authority, identifying how democracies decide on these institutions as well as exploring the varied and often far-reaching impact that these institutions have on a wide range of political and economic outcomes. Finally, in terms of behavior, we will explore how mass publics engage with democracy, largely through their participation in elections. Throughout, we will consider the experiences of both longstanding and new democracies, evaluating to what extent theories and ideas travel across contexts.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POLS 8217. Democracy, Dictatorship, and Political Regimes. 3 Credit Hours.
This course is a reading-intensive graduate seminar on the comparative politics of democratization and authoritarianism. It focuses upon political regimes in historical and comparative perspective, and immerses students in empirical scholarship and theoretical analysis to engage four core concerns: first, the origins of democracy, dictatorship, and hybrid regime types around the world; second, the trajectory and stability of different regimes in the modern era; third, the domestic and international causes of regime transitions, including institutional, economic, and systemic forces; and fourth, the key concepts and methodological strategies used in this field. The course draws upon countries and cases from across the world, including both West and non-Western regions, and incorporates comparative political work utilizing a variety of methodologies, including qualitative, quantitative, and formal approaches. Assignments involve regular analytical writing and original scholarship, encompassing a series of response papers throughout the term culminating in a final research paper.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POLS 8230. Topics in Comparative Politics. 3 Credit Hours.
Special topics course. Subject varies with instructor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
POL 8240. Issues in Comparative Politics. 3 Credit Hours.
Special topics course. Subject varies with instructor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

POL 8301. International Politics. 3 Credit Hours.
A graduate-level introduction to theories of international politics, ranging from classical realism and liberalism through contemporary neorealism, institutionalism, constructivism, and other approaches. Core course in the area.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POL 8302. International Security. 3 Credit Hours.
Graduate-level introduction to the study of international security, addressing a range of approaches to topics such as the causes of war, the balance of power, alliances, economic statecraft and sanctions, humanitarian intervention and peacekeeping, and terrorism.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POL 8303. International Political Economy. 3 Credit Hours.
A graduate-level introduction to the history and theory of international political economy. Topics include: states and markets; power and wealth; economic statecraft; international economic organizations; economic development; and the nature of interstate conflict and cooperation in the global economic system.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POL 8304. International Organizations. 3 Credit Hours.
Advanced graduate seminar, which surveys the scholarly literature dealing with the role of international institutions and international organizations in world politics, and the prospects for global governance in various issue-areas.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POL 8305. US Foreign Policy. 3 Credit Hours.
Graduate level introduction to the history and theory of American foreign policy. The seminar is arranged in three sections: the first offers a series of approaches to explaining American foreign policy, the second a survey of the past two-plus centuries of American foreign policy-making, and the last, a number of topics in contemporary foreign policy.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POL 8306. Foreign Policy Analysis. 3 Credit Hours.
Graduate-level survey of foreign policy-making in comparative perspective. The course examines various theoretical accounts of the determinants of a state’s foreign policy, including factors such as leadership, bureaucratic politics, perception and misperception, interest-group politics and public opinion, and survey the empirical literature on comparative public policy.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POL 8330. Topics in International Politics. 3 Credit Hours.
Special topics course. Subject varies with instructor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
POLS 8340. Issues in International Relations. 3 Credit Hours.
Special topics course. Subject varies with instructor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

POLS 8401. Introduction to Political Theory. 3 Credit Hours.
Introduction to the major conceptual issues in politics—power, authority, equality, liberty, democracy, justice—through the reading of both classics in
political thought and contemporary political theory. The course will also consider methodological issues in the social sciences and key topics in the
philosophy of science and the philosophy of social science.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POLS 8402. History of Political Theory I. 3 Credit Hours.
Ancient and Medieval Political Theory — This course will attempt to initiate students into the premodern origins of some of the key terms of the political
vocabulary — human nature, the good, justice, law, the rule of law, natural law, and the state. The course will try to highlight both the particularities and
 discontinuities that make ancient and medieval conceptions of these notions unique — and also the ways in which ancient and medieval theorizing on
these topics both sets the stage for later, more modern approaches to these questions and in certain cases actually merges into them.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POLS 8403. Modern Political Philosophy. 3 Credit Hours.
This course will be devoted to in-depth analyses of some of the formative works of modern political theory and practice that have helped to shape not
only modern politics but modern cultural and psychological sensibility as well. The primary theorists that we will be analyzing are Machiavelli, Hobbes,
Locke, Rousseau, Hegel, Marx, Nietzsche, and Freud, as well as some contemporary political philosophers. Texts and authors covered in this seminar
will go beyond the materials covered in the Core Seminar in Political Theory.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POLS 8404. 19th and 20th Century Political and Social Thought. 3 Credit Hours.
Examines the rise of modern social theory (Hegel, Marx, Weber, Durkheim, Freud) as a response to the emergence of increasingly rationalized, class-
stratified and bureaucratized industrial societies. Issues addressed include the relationship of the individual to society; the relationship between socio-
economic and political power; the difficulty of establishing moral meaning in increasingly bureaucratized and routinized societies. The course will also
examine post-modern theorists (e.g. Foucault, Derrida, Lyotard) who contend that modern social theory's anachronistic hypothesis of rational, industrial
societies cannot adequately explain post-modern, commodified societies increasingly "decentered" by differences of culture, race, and gender.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POLS 8405. Contemporary Theories of Democracy. 3 Credit Hours.
Considers the defenses, criticisms, and varieties of democracy in both the American and worldwide settings. Examines the relationship between
liberalism and democracy, as well as communitarian, conservative and radical critiques of liberal pluralism. Questions explored include: Can minority
rights be guaranteed in a majoritarian democratic system? What are the cultural and socioeconomic prerequisites for a democratic society? Does the
distribution of power in America today conform to the norms of a democratic society?

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POLS 8430. Problems in Political Philosophy. 3 Credit Hours.
An examination of some central themes and issues in political philosophy conducted through the study of one or more major works of political
philosophy.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
POL 8440. Special Topics in Political Philosophy. 3 Credit Hours.
Special topics course. Subject varies with instructor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

POL 8501. Symposium in Political Science. 3 Credit Hours.
Required of all M.A. and Ph.D. students. Development of political science as a field; analyzes issues in philosophy of social science; examines key
concepts and approaches to major fields in Political Science.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POL 8601. Teaching Methods. 1 Credit Hour.
Required of all M.A. and Ph.D. students wishing to be considered for financial aid. This course is to be offered once each year. No student will be
awarded financial assistance for a second year without having successfully completed this course. This course is conducted on a Pass-Fail basis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

POL 9083. Directed Study and Research I. 1 to 3 Credit Hour.
Fall credit for special study/research with a professor outside of a regularly scheduled course. A letter grade of A, B, C, or F is awarded. A student may
register for this course only with the advance approval of the pertinent faculty member and the Graduate Chair.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

POL 9183. Directed Study and Research II. 1 to 3 Credit Hour.
Spring credit for special study/research with a professor outside of a regularly scheduled course. A letter grade of A, B, C, or F is awarded. A student may
register for this course only with the advance approval of the pertinent faculty member and the Graduate Chair.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

POL 9283. Directed Study and Research III. 1 to 3 Credit Hour.
First summer session credit for special study/research with a professor outside of a regularly scheduled course. A letter grade of A, B, C, or F is
awarded. A student may register for this course only with the advance approval of the pertinent faculty member and the Graduate Chair.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

POL 9383. Directed Study and Research IV. 1 to 3 Credit Hour.
Second summer session credit for special study/research with a professor outside of a regularly scheduled course. A letter grade of A, B, C, or F is
awarded. A student may register for this course only with the advance approval of the pertinent faculty member and the Graduate Chair.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

POL 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
The purpose of such credit is to assure continuous enrollment as required by the University while one is preparing for M.A. or Ph.D. comprehensive or
Preliminary examinations. A grade of “R” is awarded the student by the Graduate Chair or other faculty designated by the Chair of the Department. The
semester in which the Preliminary exams are passed, a grade other than “R” is awarded.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
POLS 9998. Pre-Dissertation Research. 1 to 6 Credit Hour.
Three credits are required in the initial semester following the Preliminary Examinations while the Ph.D. student prepares the dissertation prospectus through a reading course with their primary dissertation supervisor. During subsequent semesters, if not yet advanced to candidacy, students continue to enroll in the 1-credit option in order to assure continuous enrollment as required by the university. Students must participate in the seminar until they execute a completed dissertation proposal. A grade of “R” is awarded until the student passes the prospectus defense. At the semester of passing the prospectus, the grade of "Pass" will be awarded to only that semester's 9998.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

POLS 9999. Dissertation Research. 1 to 3 Credit Hour.
Dissertation Research credit maintains the continuous enrollment as required by the University after a student has passed the Ph.D. comprehensive exam and prospectus defense. This is the minimum credit required each semester after the proposal defense and while the student is researching and writing the dissertation. A minimum of 6 s.h. of POLS 9999 must be completed before defending the Ph.D. dissertation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.
Repeatability: This course may be repeated for additional credit.

Portuguese (PORT)

Courses
PORT 5000. Special Topics in Portuguese. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

PORT 5101. Brazilian Short Story. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

PORT 5102. Contemporary Portuguese and Brazilian Literature. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Printmaking (PRNT)

Courses
PRNT 8111. Graduate Seminar in Printmaking. 3 Credit Hours.
Philosophy and theory of contemporary printmaking practices. Note: This course can only be taken twice for credit.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.
Repeatability: This course may be repeated for additional credit.

PRNT 8112. Graduate Seminar in Printmaking II. 3 Credit Hours.
Philosophy and theory of contemporary printmaking practices. Note: This course can only be taken twice for credit.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.
Repeatability: This course may be repeated for additional credit.
PRNT 8183. Graduate Projects in Printmaking. 3 to 12 Credit Hours.
Individual conferences and group seminars. Emphasis on diversity of command in several printmaking media. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

PRNT 8184. Graduate Projects in Printmaking II. 3 to 12 Credit Hours.
Individual conferences and group seminars. Emphasis on diversity of command in several printmaking media. Note: This course can only be taken twice for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

Psychology (PSY)

Courses

PSY 5003. Advanced Statistics. 3 Credit Hours.
This course is primarily meant to prepare master's-level psychology students to conduct statistical analyses on data related to their research, and to prepare them for more advanced courses, such as multivariate statistics (PSY 8031). Topics will include linear regression, repeated-measures ANOVA, multi-factorial ANOVA, and several nonparametric alternatives to "standard" inferential tests. In addition to significance testing, this course will focus on the measurement and interpretation of effect size and power. Students will also learn how to perform data analysis using the SPSS statistical software package.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PSY 5100. Topics: Brain, Behavior and Cognition. 3 Credit Hours.
This graduate course is to be offered for graduate students interested in the topical course designated PSY 3100 but wish to work with the instructor to earn graduate credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PSY 5103. Learning and Behavior Analysis. 3 Credit Hours.
A systematic introduction to the principles of behavior analysis with emphasis on their application as well as their origins in basic research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PSY 5104. Ethics and Ethical Conflicts in Psychological Science. 3 Credit Hours.
Psychologists are bound by an official code of conduct that includes general ethical principles, as well as specific enforceable standards for ethical conduct in research, education and training, public service, and clinical practice. This course will use a case study approach with fine-grained analyses of ethical conflicts to learn and understand the ethical standards set forth in the American Psychological Association's Ethical Principles of Psychologists and Code of Conduct (APA, 2010). We will consider both historical and recent cases of ethical misconduct in research, the concept of evidence-based treatment, and newly emerging ethical dilemmas in the field of cognitive neuroscience and imaging. Case studies and discussions will include ethical conduct relevant for graduate students.

Department Restrictions: Must be enrolled in one of the following Departments: CLA:Psychology.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(PSY 5791|Minimum Grade of B|May not be taken concurrently)
AND (PSY 5891|Minimum Grade of B|May not be taken concurrently)
PSY 5151. Motivation. 3 Credit Hours.
The course entails hands-on experience in the shaping of behavior through differential reinforcement, several field trips to sites where behavioral principles provide the basis for serving individuals with special needs (e.g., closed-head injury, autism, aggressive, and self-injurious behavior), as well as individual projects on behavior of personal concern to the course participants.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PSY 5791. Master's Directed Research I. 1 to 4 Credit Hour.
This course is open to students in the first year of the Master of Science in Psychological Research program.

Department Restrictions: Must be enrolled in one of the following Departments: CLA:Psychology.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PSY 5891. Master's Directed Research II. 1 to 4 Credit Hour.
This course is open to students in the first year of the Master of Science in Psychological Research program.

Department Restrictions: Must be enrolled in one of the following Departments: CLA:Psychology.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PSY 8005. Affective Neuroscience. 3 Credit Hours.
The brain is not just a thinking machine; it is also a feeling machine. This course explores the neural substrates behind emotions such as love, trust, fear, and pleasure. We will also discuss the relationship between emotions and cognition, the effect of emotions on animal and human behavior, and the biological basis of affective disorders such as anxiety and depression.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PSY 8011. Graduate Statistics I. 3 Credit Hours.
Review of hypothesis-testing methods for means, variances, correlations, and proportions. One-way ANOVA for completely randomized, blocked, and repeated measure designs. Planned and post hoc multiple comparisons.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PSY 8012. Core Course in History and Systems of Psychology. 3 Credit Hours.
An historical and conceptual analysis of the principle ideas and movements that have contributed to fundamental theoretical and methodological features of contemporary psychology.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PSY 8015. Teaching of Psychology. 0 to 1 Credit Hours.
Required of all graduate teaching assistants during their first semester of teaching. Designed to assist and prepare them for their teaching duties. Supervision and feedback are used to promote effective communication and teaching skills.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
PSY 8016. Professional Development Seminar. 2 Credit Hours.
This course is taken concurrently with PSY 8015, the Professional Development Seminar Series (PDS). The course will provide in-depth coverage of issues introduced at PDS seminars and roundtables, along with supporting activities and discussions relevant to students working towards the MS degree in Psychological Research. Students engage in structured written exercises that reinforce necessary professional skills, including preparation of CVs, abstracts for conference presentations, peer review of manuscripts, and grant writing. The major project in this course will be preparation of a draft for a National Science Foundation Graduate Research Fellowship application.

Department Restrictions: Must be enrolled in one of the following Departments: CLA:Psychology.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Co-requisites: PSY 8015.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(PSY 5003|Minimum Grade of B|May not be taken concurrently)
AND (PSY 5791|Minimum Grade of B|May not be taken concurrently)
AND (PSY 5891|Minimum Grade of B|May not be taken concurrently)

PSY 8021. Graduate Statistics II. 3 Credit Hours.
Multiway ANOVA for completely randomized and repeated measures, nested designs, covariance designs. Simple effects and planned and post hoc comparisons. Use of available statistical computer programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
PSY 8011|Minimum Grade of B|May not be taken concurrently.

PSY 8031. Survey of Multivariate Techniques. 3 Credit Hours.
Beginning with bivariate correlation and regression, generalizations are made, through the aid of matrix algebra, to multiple regression and correlation. Multivariate techniques also include principal components, canonical correlation, and multivariate analysis of variance use of available statistical programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
PSY 8011|May not be taken concurrently.

PSY 8032. Structural Equation Modeling. 3 Credit Hours.
This graduate course overviews the application of structural equation modeling to various analysis problems confronted throughout the social, behavioral, and health sciences. Topics will include confirmatory factor analysis, measurement and structural models, path analysis, mediation, latent growth modeling, assessing model fit, and implementation of methods in statistical software.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
PSY 8021|May not be taken concurrently.
PSY 8033. Hierarchical Linear Modeling. 3 Credit Hours.
Usually, this takes the form of individuals nested in bounded social organizations (e.g., students nested in schools or residents nested in neighborhoods), speaking to issues of social influence that the social sciences endeavor to address. This course will introduce students to HLM techniques, with a focus on practical applications of HLM. The course will focus on HLM applications to single continuous outcomes—analyzing the effects of context on individual outcomes and analyzing longitudinal data. HLM for binary outcomes and multivariate situations (multiple dependent variables) and (time allowing) HLM for cross-nested designs will also be covered.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
Pre-requisites: 
PSY 8021|May not be taken concurrently.

PSY 8041. Factor Analysis and Scaling. 3 Credit Hours.
Factor analysis covers exploratory and confirmatory methods, estimation procedures, factor transformations, as well as extensions and applications of the factor model. Scaling covers the laws of comparative and categorical judgment, goodness-of-fit tests, metric and nonmetric multidimensional scaling, and clustering methods.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
Pre-requisites: 
PSY 8031|May not be taken concurrently.

PSY 8051. Focused Analysis of Research Data. 3 Credit Hours.
An examination of focused methods of primary and secondary data analysis, taught within the conceptual framework of meta-analysis. Particular emphasis is given to the use of contrasts, indices of effect size, confidence intervals, simple graphical methods, etc., in confirmatory and exploratory data analysis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
Pre-requisites: 
(PSY 8011|May not be taken concurrently
AND PSY 8021|May not be taken concurrently)

PSY 8110. Topical Seminars in Experimental Psychology. 3 Credit Hours.
Examination of different topics within experimental psychology, varied from semester to semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

PSY 8120. Topical Seminars in Experimental Psychology. 3 Credit Hours.
Examination of different topics within experimental psychology, varied from semester to semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

PSY 8130. Topical Seminars in Physiological Psychology. 3 Credit Hours.
Topics vary from semester to semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

PSY 8210. Topical Seminars in Learning. 3 Credit Hours.
Topics vary from semester to semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.
PSY 8212. Core Course in Learning and Behavioral Analysis. 3 Credit Hours.
An examination of the fundamental concepts in learning and behavioral analysis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PSY 8310. Topical Seminar in Cognitive Psychology. 3 Credit Hours.
Topics vary from semester to semester. Students may repeat this course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PSY 8312. Core Course in Cognitive Psychology. 3 Credit Hours.
Review of theory and research in the areas of memory, language, and thinking.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PSY 8410. Multicultural Issues in Clinical Psychology. 3 Credit Hours.
Topics such as depression, sexuality, neuropsychology, death and dying, stress, impulsivity, specialized treatment approaches, and others are varied from semester to semester according to programmatic needs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PSY 8411. Cognitive-Behavioral Therapies. 3 Credit Hours.
Surveys cognitive-behavioral approaches to the treatment of the major classes of mental, behavioral and emotional disorders. Emphasis is placed on cognitive-behavioral models and case formulation as well as empirical evaluation of the relevant cognitive-behavioral treatment outcome literature.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PSY 8412. Core Course in Psychopathology. 3 Credit Hours.
The course will review concepts, theory, and research in psychopathology. Behavioral, cognitive, interpersonal, psychodynamic, sociocultural, genetic, and biological/neuroscience aspects of psychopathology will be covered as appropriate, depending on the disorder. The course will emphasize descriptive psychopathology (e.g. phenomenology, epidemiology, course of disorder) and issues of etiology, rather than treatment, although some work on treatment will also be discussed. The major goals of the course are knowledge of the nature of various mental disorders and what is known about their causes and risk factors, an appreciation of important issues in psychopathology, and development of the ability to think clearly and critically about these issues.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PSY 8413. Psychological Assessment I. 3 Credit Hours.
A year-long course; surveys concepts of intelligence and teaches the administration, scoring, and interpretation of individually administered tests. The evaluation of learning disabilities and neuropsychological disorders is also covered. Surveys the diagnostic system of mental disorders. Teaches the administration, scoring, and interpretation of projective tests and other procedures used to identify and understand clinical dynamics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PSY 8420. Topical Seminars in Clinical Psychology. 3 Credit Hours.
Topics such as depression, sexuality, neuropsychology, death and dying, stress, impulsivity, specialized treatment approaches, and others are varied from semester to semester according to programmatic needs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
PSY 8423. Psychological Assessment II. 3 Credit Hours.
A year-long course; surveys concepts of intelligence and teaches the administration, scoring, and interpretation of individually administered tests. The evaluation of learning disabilities and neuropsychological disorders is also covered. Surveys the diagnostic system of mental disorders. Teaches the administration, scoring, and interpretation of projective tests and other procedures used to identify and understand clinical dynamics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PSY 8430. Topical Seminars in Clinical Psychology IV. 3 Credit Hours.
Topics such as depression, sexuality, neuropsychology, death and dying, stress, impulsivity, specialized treatment approaches, and others are varied from semester to semester according to programmatic needs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PSY 8433. Clinical Psychology: Scientific and Professional Dimensions. 3 Credit Hours.
History, ethics, research and service methodologies, psychometrics, and topical discussions pertinent to the relationships between psychological science and the practice of clinical psychology.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PSY 8453. Personality and Psychotherapy. 3 Credit Hours.
An examination of Freudian/Modern psychoanalytic and existential theories and their application to personality, psychopathology and treatment.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PSY 8481. Social, Cognitive, and Developmental Aspects of Behavior. 3 Credit Hours.
This is a general graduate level survey course that will include three 5-week evaluated education experiences (EEE's) focusing on each of (a) social aspects of behavior (b) cognitive aspects of behavior and (c) developmental aspects of behavior. The social EEE will include topics such as group processes, attributions, discrimination and attitudes. The developmental EEE will include topics such as transitions, growth, and development across an individual's life. The cognitive EEE will include topics such as learning, memory, thought processes, and decision-making. As a part of each EEE, students will be assigned primary readings of classic articles in the area as well as recent research findings. This course is designed to meet the American Psychological Association requirements for discipline specific knowledge in social, cognitive, and developmental aspects of behavior.

Department Restrictions: Must be enrolled in one of the following Departments: CLA:Psychology.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PSY 8510. Topical Seminar in Developmental Psychology I to IV. 3 Credit Hours.
In different semesters these courses focus on topics such as aging, adolescence, infancy, language development, learning and memory development, perceptual development, and theories of development.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PSY 8512. Core Course in Developmental Psychology. 3 Credit Hours.
Consideration of theories and related research on human development.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
PSY 8513. Cognitive Development. 3 Credit Hours.
Theories of cognitive development (including Piaget, Werner, information processing) and exploration of issues and research generated by these theories. Includes consideration of sensory-motor, perceptual, language, memory, and conceptual development.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
PSY 8512|May not be taken concurrently.

PSY 8610. Topical Seminar in Organizational-Social. 3 Credit Hours.
Topics selected depend on the current emphasis in the field and interests of the students. A student may repeat this course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PSY 8612. Core Course in Social Psychology. 3 Credit Hours.
A survey of theoretical foundations and the substantive and methodological issues of social psychology.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PSY 8613. Advanced Social Psychology. 3 Credit Hours.
Topics selected depend on the current emphases in the field and interests of the students. A student may repeat this course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PSY 8712. Core Course in Behavioral Neuroscience. 3 Credit Hours.
An examination of brain-behavior relationships in the context of evolution.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PSY 9183. Readings in Psychology. 3 Credit Hours.
A post-master's advanced tutorial course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PSY 9187. Clinical Practicum. 3 Credit Hours.
Under the auspices of the Psychological Services Center, students work with a different faculty member for each of four semesters. Each semester will emphasize either a different client population or a different orientation to the assessment and treatment of child, family, and adult disorders. Faculty assignments and the focus of group supervision vary from semester to semester.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Psychology.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PSY 9283. Readings in Psychology. 1 to 3 Credit Hour.
A post-master's advanced tutorial course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
PSY 9287. Clinical Practicum. 3 Credit Hours.
Under the auspices of the Psychological Services Center, students work with a different faculty member for each of four semesters. Each semester will emphasize either a different client population or a different orientation to the assessment and treatment of child, family, and adult disorders. Faculty assignments and the focus of group supervision vary from semester to semester.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Psychology.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PSY 9387. Clinical Practicum. 3 Credit Hours.
Under the auspices of the Psychological Services Center, students work with a different faculty member for each of four semesters. Each semester will emphasize either a different client population or a different orientation to the assessment and treatment of child, family, and adult disorders. Faculty assignments and the focus of group supervision vary from semester to semester.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Psychology.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PSY 9411. Clinical Research Methodology. 3 Credit Hours.
Focuses on design issues and major methodological problems in research on such topics as psychotherapy outcome, characteristics of diagnostic groups, and stress in families. Particular attention is given to internal and external validity threats, advantages and disadvantages of assessment methods, principles of test construction, challenges and alternatives to traditional research methods, single subject designs, and approaches to integrating clinical research and practice.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PSY 9485. Ph.D. Internship Course. 1 to 6 Credit Hour.
For clinical students only who are on internship.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PSY 9487. Clinical Practicum. 3 Credit Hours.
Under the auspices of the Psychological Services Center, students work with a different faculty member for each of four semesters. Each semester will emphasize either a different client population or a different orientation to the assessment and treatment of child, family, and adult disorders. Faculty assignments and the focus of group supervision vary from semester to semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

PSY 9587. Clinical Practicum. 3 Credit Hours.
Under the auspices of the Psychological Services Center, students work with a different faculty member for each of four semesters. Each semester will emphasize either a different client population or a different orientation to the assessment and treatment of child, family, and adult disorders. Faculty assignments and the focus of group supervision vary from semester to semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
PSY 9987. Assessment Practicum. 3 Credit Hours.
The assessment practicum is designed to provide clinical students in-depth training in comprehensive psychological/neuropsychological assessment. Under the auspices of the Psychological Services Center, students work with a faculty member who is a licensed psychologist for two semesters conducting psychological assessments. Integration of test results and other sources of information (e.g., interview, medical history, informant reports, etc.) will be emphasized. Additionally, the assessment practicum will focus on generating recommendations based on the psychological/neuropsychological assessment and communicating results to clients and referral sources.

**Department Restrictions:** Must be enrolled in one of the following Departments: CLA:Psychology.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**Pre-requisites:**
(PSY 8413|Minimum Grade of B-|May not be taken concurrently)
AND (PSY 8423|Minimum Grade of B-|May not be taken concurrently)

PSY 9991. Research. 1 to 6 Credit Hour.
Intended to meet the needs of students who desire to carry on an individual investigation while working for the master's degree.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

PSY 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
Preparation for the preliminary examination.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

PSY 9998. Pre-Dissertation Research. 1 to 6 Credit Hour.
Independent research for the dissertation proposal. Registration each semester required until approval and elevation to candidacy.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

PSY 9999. Ph.D. Dissertation Research. 1 to 6 Credit Hour.
After passing the preliminary examinations and having an approved proposal, Ph.D. students must register each semester for this course until the completion of the dissertation.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Student Attribute Restrictions:** Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

**Repeatability:** This course may be repeated for additional credit.

**Public Policy (PLCY)**
Courses

PLCY 5085. Internship in Public Policy. 3 Credit Hours.
Students in the MPP program must serve in an approved internship of approximately 10 hours per week during the fall or spring semester (or approximately 20 hours per week during a summer session). Students earn 3 credits for non-paying internships. The internship may be in a federal, state or local agency in the executive or legislative branches of government or in a private or non-profit firm that works closely with such an agency to fulfill the agency's mission.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Public Policy.
College Restrictions: Must be enrolled in one of the following Colleges: Liberal Arts.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
(PLCY 8119|Minimum Grade of C|May be taken concurrently
OR POLS 8119|Minimum Grade of C|May be taken concurrently)
AND (PLCY 8123|Minimum Grade of C|May be taken concurrently
OR POLS 8123|Minimum Grade of C|May be taken concurrently)

PLCY 8118. The Policy-Making Process. 3 Credit Hours.
This course explores the process through which federal and state governments in the United States formulate and implement public policies. Major political and institutional actors that influence policy-making are covered, including public opinion, interest groups, legislatures, bureaucracies and chief executives, and courts. The course covers how problems are recognized and get "framed" by advocates and policymakers and how they reach the agenda, how alternatives are formulated and adopted, the implementation and evaluation of policies and programs, and how the performance and structure of existing policies feed back into the process as policies undergo expansion, revision or termination.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Liberal Arts.

Repeatability: This course may not be repeated for additional credits.

PLCY 8119. Policy Analysis. 3 Credit Hours.
This course is an introduction to policy analysis for MPP students. Policy analysis involves collecting and analyzing information pertinent to public policy issues and solutions and communicating them clearly to a client, which is usually a policymaker or administrator of a program. Policymakers need analyses that clearly define and describe the nature and severity of an issue, assess the feasibility and estimate the costs and benefits of alternative solutions for addressing them, and (often) recommend one or more courses of action over others.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Liberal Arts.

Repeatability: This course may not be repeated for additional credits.

PLCY 8123. Bureaucracy and Public Management. 3 Credit Hours.
Bureaucracies and the public managers who inhabit them are of critical importance for the formulation, implementation and evaluation of public policies. This course provides students with an overview of bureaucratic agencies as key actors who shape public policy and performance. One focus of the course is how the institutional features of bureaucracies as large, complex organizations and of the broader political system in which they operate shape agencies' behavior. The other major focus is on how the leaders, managers and staff work together to shape bureaucratic cultures, missions and operating procedures and how these, in turn, determine whether the agency is capable of carrying out policies effectively and in accord with legislative mandates.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
PLCY 8127. Policy Analysis Project. 3 Credit Hours.
A semester-length project that students take in their last semester in the MPP program. They produce an original, full-length policy analysis for a client. Students attend a weekly seminar to report on their progress at each stage in the development of their policy analysis, receive feedback from other seminar participants, and provide advice to other students in the seminar.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Public Policy.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(POLS 8001|Minimum Grade of C|May not be taken concurrently)
AND (PLCY 8119|Minimum Grade of C|May not be taken concurrently)
OR POLS 8119|Minimum Grade of C|May not be taken concurrently)

PLCY 8128. State and Local Budgeting. 3 Credit Hours.
Examines the economic and political aspects of the budgetary process in government, particularly at the state and local levels. Topics covered include the major sources and types of revenue, discretionary and non-discretionary spending, managing deficits and debt, forecasting fiscal conditions, capital budgeting, pension management, and other issues.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

PLCY 8131. Innovation in Government. 3 Credit Hours.
Innovation is considered a critical component of both private industry and the academic research community, but the concept is also highly relevant for government. While its outcomes may look differently in a government setting and focus more on efficiencies and social benefit rather than new products or services, innovation remains a critical part of any successful government. Without setting the stage for innovation and purposefully managing it, government lacks capacity for improving constituent services, engaging purposefully with its neighborhoods and residents, and developing more efficient and cost-effective internal processes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
PLCY 8118|Minimum Grade of C|May be taken concurrently
OR PLCY 8123|Minimum Grade of C|May be taken concurrently.

Recreational Therapy (RCTH)

Courses

RCTH 5001. Graduate Research I in Recreational Therapy. 3 Credit Hours.
This online course is designed as a graduate level introduction to research design, methods, and analyses. The course will focus on the fundamentals of health and social research, including: the logic of scientific inquiry, research ethics, developing testable research questions, data collection techniques, and basic data analysis. Students will also examine the diverse methods used in health and social research - including survey research, experimental design, single-subject design, and qualitative research - exploring both strengths and weaknesses of different designs. Students will address a single research question by integrating multi-disciplinary sources in a scholarly paper and by orally presenting the findings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health.

Repeatability: This course may not be repeated for additional credits.
RCTH 5009. Entrepreneurship in the Health Professions. 3 Credit Hours.
This course is designed to introduce students to entrepreneurship. The goal of the course is to demonstrate the links between knowledge, experience and skills and commercial possibilities. The course integrates a number of different disciplines, ranging from sociology and psychology to economics, finance, marketing and human resource management. Through assigned readings, class discussions, activities and guest lectures from various professional fields, students will be challenged to apply theoretical principles, concepts and frameworks to real world situations.

Department Restrictions: Must be enrolled in one of the following Departments: CPH:Rehabilitation Sciences.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health.

Repeatability: This course may not be repeated for additional credits.

RCTH 5102. Recreational Therapy: Now and Then. 3 Credit Hours.
This course explores the historical roots of disability and the recreational therapy profession, as well as the current trajectory of the disability movement and recreational therapy practice. Concepts, models, approaches, and theories utilized in recreational therapy practice are reviewed, in which students are challenged to explain, apply, compare/contrast, and critique this information as it applies to current challenges, issues, and trends in practice and healthcare. The course additionally reviews and applies professional ethics and standards of practice to current healthcare situations; evaluates and reimagines scenarios for cultural competence and interprofessional collaboration; and hypothesizes potential approaches to current issues and trends for forward momentum of the profession, public health, and client outcomes. Students will review case studies that explore the application of the RT process (Assessment, Planning, Implementation, Evaluation, and Documentation) in different settings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health.

Repeatability: This course may not be repeated for additional credits.

RCTH 5201. Managing Dementia Care. 3 Credit Hours.
Utilizing a person-centered and interdisciplinary approach, the course explores the strategies for assisting practitioners, agencies, families and caregivers with balancing the needs and behaviors of the individual with dementia, and the social and physical environments in which the person with dementia is placed. Students will apply fundamental principles for the design and evaluation of activity-based, psychosocial programs for this population. Models for managing problem behaviors while respecting the needs of the client will be explored. This course seeks to emphasize the importance of interdisciplinary support and is therefore, appropriate for students of healthcare disciplines that utilize an activity-based approach. NOTE: Prior courses in lifespan/human development and anatomy are suggested. Undergraduates may enroll with permission of instructor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

RCTH 5204. Recreational Therapy and Assistive Technology. 3 Credit Hours.
This course provides an in depth review of the use of and opportunities for assistive technology in recreational therapy services in promoting the full inclusion and community participation of persons with disabilities. Emphasis is placed on the AT devices and services that promote functional independence and participation in the community and in physically and socially active recreation and leisure. Students will review the literature on the use of assistive technology and make practice recommendations for therapists working with individuals who may benefit from the use of assistive technology.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

RCTH 5205. Recreational Therapy in Geriatric Services. 3 Credit Hours.
This course provides an in-depth review of the evidence for the use of recreational therapy in geriatric service settings. Emphasis is placed on developing best practices for recreational therapists to assess needs, develop interventions, and evaluate intervention outcomes. Students will (1) read and critique current literature related to RT practice in geriatric service settings; (2) synthesize the research findings and identify key elements that should be disseminated to recreational therapists within geriatric services settings; (3) develop knowledge translation plan; and (4) present findings to peers.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Recreation Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
RCTH 5211. Recreational Therapy & Physical Rehabilitation. 3 Credit Hours.
This course provides an in-depth review of the evidence for the use of recreational therapy in physical medicine and rehabilitation. Emphasis is placed on developing best practices for recreational therapists to assess needs, develop interventions, and evaluate intervention outcomes. Students will (1) read and critique current literature related to RT practice in physical rehabilitation settings; (2) synthesize the research findings and identify key elements that should be disseminated to recreational therapists within physical rehabilitation settings; (3) develop knowledge translation plan; and (4) present findings to peers.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

RCTH 5212. Play and Development. 3 Credit Hours.
This course explores the theoretical and practical dimensions of play and the dynamic relationship between play and development across the lifespan, with a particular focus on children. The course examines the intersection of gender, race/ethnicity, culture, community, media, and technology with play and development. Topics include play of typically and atypically developing children, assessing play behaviors, designing multipurpose play environments, and current efforts to reinvigorate the culture of play in the development of children. NOTE: Undergraduates may register for this course with permission of the instructor. Also, previous coursework in developmental psychology, child/adolescent psychology, or lifespan/human development is suggested.

Department Restrictions: Must be enrolled in one of the following Departments: CPH:Rehabilitation Sciences.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

RCTH 5213. Therapeutic Play, Recreation and Children’s Health. 3 Credit Hours.
This course examines the range of organized and structured play and recreation services used by recreation therapists to promote health, well-being, and social inclusion of children. The course examines developmental and psychosocial needs resulting from trauma, abuse, chronic illnesses, and other disabling conditions, and the use of play and recreation modalities to promote resiliency, recovery and hope within myriad service settings including hospitals, residential treatment centers, schools, camps, and municipal recreation departments.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Recreation Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

RCTH 5214. Child Life Interventions. 3 Credit Hours.
This course examines Foundation of Child Life practice, including theories and methods used to reduce stress and increase child/family abilities to cope with illness and hospitalization. The course includes rationale and evidence for interventions related to techniques to prepare children for medical procedures, pain management, coping skills, family-centered care, and bereavement support. Students learn about credentialing requirements for Child Life Specialists, and are required to engage in field-based experiential learning. NOTE: Undergraduates may register for this course with permission of the instructor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

RCTH 5250. Special Topics in Recreational Therapy Practicum. 1 to 3 Credit Hour.
Contemporary issues related to new methods and areas of RT practice, including, but not limited to assistive technology, RT in school settings, home health care, and community leisure programs for individuals with disabilities. Course topics will change. This course may be repeated for credit.

Department Restrictions: Must be enrolled in one of the following Departments: CPH:Rehabilitation Sciences.
Field of Study Restrictions: Must be enrolled in one of the following Majors: Recreation Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health.

Repeatability: This course may be repeated for additional credit.
RCTH 5261. Recreational Therapy and Disabilities Seminar I. 3 Credit Hours.
This course examines issues experienced by individuals with mental health conditions and developmental disabilities, as well as how assistive
technology can be used to complement treatment services. Students will conduct a historical review of regulatory policies that have influenced the
delivery of services, specifically examining issues related to institutionalization, community-based treatment, and inclusion, among others. Students will
synthesize existing research and draw implications for recreational therapy practice.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health.

Repeatability: This course may not be repeated for additional credits.

RCTH 5271. Recreational Therapy and Disabilities Seminar II. 3 Credit Hours.
This course examines issues associated with physical rehabilitation, pediatrics, and age-related disabilities. Students will conduct a historical review of
regulatory policies and societal trends that have influenced the delivery of services in these settings. Students will synthesize existing research and draw
implications for recreational therapy practice.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health.

Repeatability: This course may not be repeated for additional credits.

RCTH 5301. Evidence Based Practice in Recreational Therapy I. 3 Credit Hours.
This course will introduce students to evidence based practice in recreational therapy. Students will develop a critical understanding of how evidence
is generated, retrieved, and appraised. They will become knowledgeable about the relevance of research findings for clinical decision-making in
recreational therapy practice. Presented with a case study, students will develop an evidence-based question, identify and complete an effective search
strategy, evaluate and synthesize evidence in order to make clinical recommendations to address the proposed clinical issue.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Recreation Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health.

Repeatability: This course may not be repeated for additional credits.

RCTH 5302. Evidence Based Practice in Recreational Therapy II. 3 Credit Hours.
This course will introduce students to the practitioner-researcher role by building upon prior knowledge attained across the Recreational Therapy
program. This course supports the use of research knowledge in making practice decisions that improve the delivery of recreational therapy
interventions. This course serves as a culminating course where students demonstrate mastery of program goals. Students will develop and present
lessons to each other related to evidence-based practice and develop proposals to submit to professional organizations. The course will culminate with a
comprehensive exam and the development of evidence-based protocols.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Recreation Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(RCTH 5301|Minimum Grade of B-|May not be taken concurrently)
AND (RCTH 5402|Minimum Grade of B-|May not be taken concurrently)
AND (RCTH 5311|Minimum Grade of B-|May not be taken concurrently)

RCTH 5311. Conceptual and Contemporary Issues in Recreational Therapy. 3 Credit Hours.
This course examines conceptual, theoretical, and practical issues associated with the organization and delivery of RT services. It uses a combination
of lectures, readings, and oral and written exercises through which students reflect on and develop informed positions on core values and beliefs that
support the profession. Students develop a plan of action for ongoing professional development during the academic program and beyond.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
RCTH 5312. Leisure, Health, and Recreational Therapy Interventions. 3 Credit Hours.
The purpose of this course is to explore the dominant concepts and theories related to recreation and leisure behaviors and experiences, and their linkages to health, wellness, and life quality. Current research describing the interrelationships between leisure and health/life quality are examined, including the topics of disability and diversity issues such as culture, gender, race/ethnicity, class, age/lifespan, and sexual orientation. The interlinking triads among theory/conceptualizations, research, and practice are emphasized.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health.

Repeatability: This course may not be repeated for additional credits.

RCTH 5314. Leisure-time Physical Activity and Community Engagement in Recreational Therapy. 3 Credit Hours.
This course provides an overview of the effects of physical activity and community participation on health among individuals with disabilities. All levels of physical activity (i.e., sedentary - vigorous) will be examined in relation to the impact on cognitive, physical, social, and emotional health. This class has a unique focus on utilizing the community as a resource to increase physical activity. Thus students will have the opportunity to assess barriers and facilitators to community-based physical activities in diverse populations, as well as exploring community specific resources. Particular attention will be given to organizational sponsorship of and different options for community-based activities for individuals with disabilities. Additionally, the class will critique interventions aimed at increasing LTPA for individuals with disabilities. Topics to be covered include: sedentary-vigorous physical activity, metabolic equivalency of leisure time activities, assessment of physical activity, and a critique of population specific intervention considerations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

RCTH 5315. Social Engagement and Community Participation in Recreational Therapy. 3 Credit Hours.
This recreational therapy course explores the theoretical and practical dimensions of social systems and the dynamic relationship between the individual with disabilities and their community. The course will identify how individuals with disabilities interface with their social environments and the challenges that are experienced in the navigation process. Students will explore aspects of stigma that influence the openness of a community, and consider both the benefits and the challenges of segregation, integration and full inclusion.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

RCTH 5316. Measuring Health and Disability: The ICF Model. 3 Credit Hours.
The International Classification of Functioning, Disability, and Health is a worldwide biopsychosocial model of disability and coding system for the purpose of providing a scientific basis for understanding and studying health, establishing a common language for describing health, and comparing data across countries and disciplines. This course introduces students to the ICF model reviewing the model's development, aims, and application in current healthcare practice, as well as opportunities to expand its application in the pursuit of providing high-quality, transdisciplinary, and integrated research and care in clinical and non-clinical settings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

RCTH 5382. Independent Study. 1 to 6 Credit Hour.
This supervised project is structured between the student and a faculty mentor. Projects may include developing a research proposal, conducting a field-based investigation, or developing and evaluating a program. Registering for this course requires prior permission from a faculty mentor. A mutually agreeable study contract must be secured before the end of the second week of the semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

RCTH 5402. Recreational Therapy Administration and Management. 3 Credit Hours.
This course examines program, personnel, fiscal, and facilities management, including professional standards of practice and accreditation standards that guide and regulate organization and delivery of Recreational Therapy services in health care and human services settings. The course may involve applied learning experiences in area agencies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health.

Repeatability: This course may not be repeated for additional credits.
RCTH 5442. Program Planning and Practice in Recreational Therapy. 3 Credit Hours.
This course is designed to prepare students for the development of systematically designed recreational therapy service delivery programs. This course examines conceptual models used in the development of evidence-based recreational therapy programs. Students learn the processes for developing comprehensive program and specific program plans that are applied in a manner that provides efficient recreational therapy services to clients receiving services across community and non-community based settings.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Recreation Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

RCTH 5787. Recreational Therapy Practicum. 3 Credit Hours.
Field placement is made with emphasis on acquisition and application of practical skills for students who do not meet eligibility for NCTRC professional level certification examination.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Science.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health.
Repeatability: This course may be repeated for additional credit.

Rehabilitation Sciences (REHB)

Courses

REHB 5311. Leisure-time Physical Activity and Community Engagement in Persons with Disabilities. 3 Credit Hours.
This course provides an overview of the effects of physical activity and community participation on health among individuals with disabilities. All levels of physical activity (i.e., sedentary - vigorous) will be examined in relation to the impact on cognitive, physical, social, and emotional health. This class has a unique focus on utilizing the community as a resource to increase physical activity. Thus students will have the opportunity to assess barriers and facilitators to community-based physical activities in diverse populations, as well as exploring community specific resources. Particular attention will be given to organizational sponsorship of and different options for community-based activities for individuals with disabilities. Additionally, the class will critique interventions aimed at increasing LTPA for individuals with disabilities. Topics to be covered include: sedentary-vigorous physical activity, metabolic equivalency of leisure time activities, assessment of physical activity, and a critique of population specific intervention considerations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

REHB 5312. Social Engagement and Community Participation for Persons with Disabilities. 3 Credit Hours.
This blended course (i.e. on-line & classroom) explore the theoretical and practical dimensions of social systems and the dynamic relationship between the individual with disabilities and their community. The course will identify how individuals with disabilities interface with their social environments and the challenges that are experienced in the navigation process. Students will explore aspects of stigma that influence the openness of a community, and consider both the benefits and the challenges of segregation, integration and full inclusion.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

REHB 5313. Measuring Health and Disability: The ICF Model. 3 Credit Hours.
The International Classification of Functioning, Disability, and Health is a WORLDWIDE biopsychosocial disability model and coding system for the purpose of providing a scientific basis for understanding and studying health, establishing a common language for describing health, and comparing data across countries and disciplines. This course introduces students to the ICF model reviewing the model's development, aims, and application in current healthcare practice, as well as opportunities to expand its application in the pursuit of providing high-quality, transdisciplinary, and integrated research and care in clinical and non-clinical settings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Religion (REL)
Courses

REL 5000. Special Topics. 1 to 3 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

REL 5001. Foundations in Philosophy of Religion. 3 Credit Hours.
Considers a selection of classical and modern European and American philosophers and the implications of their views for religious thought. Some of those whose writings are considered may include Hume, Kant, Schleiermacher, Hegel, Kierkegaard, James, Whitehead, Rosenzweig, Gadamer, Ricoeur, Derrida, Irigaray, Habermas, and Foucault. Also may consider non-Western philosophies of religion, for example, those deriving from India or Japan.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

REL 5002. Foundations in Religion and the Social Sciences. 3 Credit Hours.
Introduces students to the discourse of Western social sciences on religion. Examines both modern and postmodern thinkers. Offers extensive readings in Durkheim, Marx and Weber. Then puts these modern theorists into conversation with postmodern critical theory as exemplified by Foucault and Bourdieu.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

REL 5003. Foundations in Textual and Historical Studies in Religion. 3 Credit Hours.
Teaches the issues, methods, and trends emerging in the turbulent world of historical studies. Explores the problems, ideological constraints, and new venues that occur when "religion" is introduced to historical studies. Deals with New Historicism, Cultural Materialism, postcolonial theory, various feminisms, the crisis of narrative history, and various approaches now in vogue for reading ancient texts, 1st through 6th century CE and dealing with Greco-Roman religions, Judaism, and Christianity.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

REL 5004. Foundations in Religion and Psychology. 3 Credit Hours.
Introduces psychological theorizing about the origins, motivations, and aims of religion. Psychological thought will be contextualized, showing how it has been shaped by and in turn reshapes more traditional Western reflection on the nature of persons, symbols, and faith. Simultaneously, psychological perspectives assist Western people to appreciate, interpret, and adapt non-Western forms of religion and practices. In this course, we will read classic theorists, modern revisers, and some recent rethinking and responses to these theorists.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

REL 5006. Foundations in Religion, Race, and Ethnicity. 3 Credit Hours.
Critically engages leading theoretical discussions about the intersection of religion, race, and ethnicity. Serves also as a practicum in relevant social science methodologies and their application in the analysis of a chosen "ethnic" congregation in the Philadelphia area.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

REL 5009. Foundations for the Critical Study of the Hebrew Bible. 3 Credit Hours.
This seminar provides an introduction to the development and application of various critical methods employed in Hebrew Bible scholarship (sometimes called Old Testament scholarship). It will focus on methodological developments from the mid-nineteenth century CE through the present. Knowledge of Hebrew is not required.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
REL 5101. Foundations in Hinduism. 3 Credit Hours.
Both a historical and thematic survey of Hinduism. Attempts to make clear the structures of Hinduism and to explain its internal coherence as well as its apparent inconsistencies. While recognizing that it is impossible to include everything in the study of a religion which covers a time span of 5,000 years and which has existed over a vast geographical area, this course aims at giving comprehensive coverage of the history, traditions, rituals and theologies of Hinduism.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

REL 5102. Foundations in Indian Buddhism. 3 Credit Hours.
Examines the biographical data (not Buddhology) and philosophical themes in the Majjhima Nikaya and the Digha Nikaya. Studies philosophical themes in early Theravada traditions and selected suttas.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

REL 5201. Foundations in Chinese Religions. 3 Credit Hours.
Basic studies of (1) the classical texts and essential teachings of early Confucianism and Taoism, and (2) the ideological continuity from early Confucianism and Taoism to Neo-Confucianism and Neo-Taoism. Focuses on the major religious and philosophical traditions of China. Special consideration is given to the ethical, religious, and social thought of Confucianism and Daoism. Topics of discussion include: 1) the pre-Han concepts of spirits and gods, 2) classical Confucianism (the "Kung-Meng tradition"), 3) philosophical Daoism (the "Lao-Zhuang tradition"), 4) religious Daoism (including the popular cult of immortality), 5) ideological continuities and transformations in Neo-Confucianism and Neo-Daoism, and 6) religious practices in contemporary China. The approach is both historical and comparative. No knowledge of Chinese is required, as the readings are in translation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

REL 5202. Foundations in Chinese Buddhism. 3 Credit Hours.
The course will provide an overview of Chinese Buddhism from its beginning in ca. 200 CE to the modern era. We will read primary sources in translation supplemented by overview lectures on history and philosophy. We will look at Chinese Buddhist thought, as well as its art and architecture, social dynamics and relationship with other traditions. A special section on modern and contemporary Chinese Buddhism will emphasize Buddhist reactions to modernity. Participants will create an annotated bibliography, do at least one presentation, and write a term paper (20+ pages).

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

REL 5301. Foundations in Japanese Buddhism. 3 Credit Hours.
Prepares students to do an in-depth study of Japanese Buddhism, covering several major Buddhist thinkers, such as Kukai, Dogen, Shinran, Myoe, Hakuin, TakuSan, and Nishida. In order to understand how Japanese Buddhism accepted Indian and Chinese Mahayana Buddhism, the course traces some of the prominent conceptual frameworks of these two. The methodological orientation of the course is philosophical.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

REL 5401. Foundations in Judaism. 3 Credit Hours.
This course offers students a critical introduction to issues within Jewish studies and the study of Jews, Judaism and Jewishness. Who are Jews and how have these designations shifted and changed over time? What is Judaism and how is it a religion? What role do texts and practices play in defining Judaism? The course asks these and other questions in order to both build on the legacy of how Judaism has been studied within the academic field of religious studies and to challenge some of these long held assumptions. In other words, the course both appreciates and challenges this scholarly legacy by offering students Religious studies, Jewish studies and literary critical tools to better appreciate Jewish texts and practices. And, by looking at Jews, Judaism and Jewishness in the plural, the course offers students a broad historical vision of Jewish culture. The course is organized, more or less, chronologically offering students a critical overview of Jewish history moving from the biblical period to the present with attention to specific Jewish texts and artifacts from specific periods and geographical locations within this history.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
REL 5501. Foundations in Christianity. 3 Credit Hours.
Focuses on both thought (doctrine, theology) and patterns of spiritual life, especially as revealed in Christian devotional "classics." What has been believed, taught and confessed by Christians since the Church's earliest era? How have individuals lived out these teachings, helped to reshape them, and discerned a spiritual life focused on God as known through Jesus Christ? As contemporary persons, how can we read and interrogate as well as appropriate these texts within a religious and cultural world so different from those of the authors? The continuing importance and vitality of these "classics" - or their rediscovery after long periods of obscurity - is part of the milieu for Christianity in its world context today.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

REL 5601. Foundations in Islam. 3 Credit Hours.
Provides a basic survey of Islam for non-specialists. Includes a historical overview focusing on the relationship of Islam to the world and to other religions and ideologies of ancient, medieval, and modern times. Also considers the major modalities of Islam as a religion, including the legal, spiritual, philosophical, and social aspects. Finally, current issues in Islam will be considered, including modern changes in social organization and present-day politics. No prerequisites or language requirements.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

REL 5701. Foundations in African Religions. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

REL 5801. Foundations in Digital Humanities for the Study of Religion. 3 Credit Hours.
"Foundations in Digital Humanities for the Study of Religion" will familiarize graduate students with methods and applications from the emerging field of DH. This course alerts students to the digital difference in three fields: text, space, and networks. It focuses on examples from the domain of religious studies, but the methods are applicable in other fields as well.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

REL 8001. Religious History of the United States in the 20th Century. 3 Credit Hours.
Explores the scholarly literature on the history of religion in the United States in the 20th century. Focuses on members of New Religious Movements; on Muslims, Protestants, and Catholics; on race and ethnicity; on diasporas; on gender; and on changing concepts of the nature of "religion."

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

REL 8002. American Religious History. 3 Credit Hours.
Discusses and analyzes a selected topic in American religious history.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

REL 8003. American Religious History II. 3 Credit Hours.
Discusses and analyzes a selected topic in American religious history.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

REL 8004. The History of Ethics. 3 Credit Hours.
A general survey of the development of human ethics in history. While all of the most prominent religions and civilizations will be looked at, the course may concentrate more on some than others in accord with the expertise of the instructor, including especially contemporary themes in the study and application of ethical standards.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
REL 8005. Interreligious Dialogue. 3 Credit Hours.
Investigates the theoretical issues that underlie all interreligious dialogue as well as examples of actual dialogue in progress, the latter partly according to student interest in those dialogues. The former will include analyses of what precisely is meant by dialogue and of the philosophical, theological, religious, psychological, “spirituality,” and “praxis” aspects of interreligious dialogue, in other words, the presuppositions and implications of such dialogue.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

REL 8006. Methodological Options in the Study of Religion. 3 Credit Hours.
Focuses on one of the currently available methodologies used in academic discourses on religion, enabling the students to evaluate this methodology and compare and contrast it with others.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

REL 8007. The Body: East and West. 3 Credit Hours.
This course assumes a comparative approach to investigate how we understand our body, how we live our body, and how our body changes through the practice of self-cultivation. It will first examine some of the traditional Western concepts of the body (e.g. Plato, Aristotle, Descartes, and Merleau-Ponty). Then it will turn to the study of the body as it has been articulated in the Eastern intellectual tradition (e.g. Samkhya Karika, Patanjali’s Yogasutra, and Yuasa Yasuo’s The Body, Self-Cultivation and Ki-Energy).

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

REL 8008. Jung and the East. 3 Credit Hours.
This comparative course delves into the similarities and differences between Jung’s major theories developed after 1928 (e.g., archetypes, collective unconscious, synchronicity) and the representative Eastern theories of Taoist, Buddhist, and Kundalini Yoga traditions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

REL 8009. Religious Experience: Body and Meditation. 3 Credit Hours.
This course examines the nature, the variety, the depths, and the meanings of religious experiences with the view to advancing a third alternative position to the two prominent contemporary philosophical positions which W. T. Stace and Steven Katz offered on this topic. As a preparation for this task, the course will first review some of the major classical texts, both Western and Eastern (e.g., Plotinus, Pseudo-Dionysius, St. Teresa, St. John of the Cross, Meister Eckhart, Early Buddhism, Kundalini Yoga, and Shintoism), so that the student will become familiar with the scope and the depth of the subject.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

REL 8010. Rel Exper-East & West. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

REL 8011. Religion and Public Life. 3 Credit Hours.
We will inquire about key intellectual issues pertaining to the public understanding of religion in the U.S. today: examining the ideas of secular and religious; understanding the first amendment clauses on religious freedom and establishment; tracking ethical debates concerning race, gender, and sexuality; gaining perspective on civil religion and popular culture; examining how religion uses and is portrayed in the media; and gaining insight about religious pluralism in local and global contexts. Additional goals include understanding the connections among world events, American society, and religious life. Students will do critical writing in a variety of styles to address public and academic audiences.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
REL 8012. Religion and Sexuality. 3 Credit Hours.
This course examines recent ideas and trends in the scholarly literature about sexuality in the context of religious studies. We will focus primarily on how contemporary scholars have reshaped and rethought religious traditions that control and celebrate sexuality in light of contemporary ideas about the power and variety of sexual experience and expression. Students will be required to read and critically engage scholarly monographs and write an extensive original research paper on a topic of their choice.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

REL 8100. Topics in Buddhist Thought. 3 Credit Hours.
Various topics in the Buddhist thought of Japan, China, or India. May treat one, two, or all three of these traditions on a given topic and also compare them with parallel Western thought.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

REL 8201. Chinese Philosophy and Religion. 3 Credit Hours.
This course will introduce participants to a select few seminal works in the history of East Asian thought. These works will be read closely and in depth together with secondary scholarship on them. The primary readings will usually be from the pre-modern period and will focus on foundational works of Confucianism, Buddhism, and Daoism.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

REL 8300. Topics in Japanese Buddhism. 3 Credit Hours.
Provides an in-depth study of one or more topics in Japanese Buddhism. May cover any of the major Japanese Buddhist thinkers such as Kukai, Dogen, Shinran, Myoe, Hakuin, Takuan, and Nishida. Methodological orientation is philosophical.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

REL 8301. Kyoto School of Philosophy. 3 Credit Hours.
We will be reading for the course some of the major thinkers belonging to the Kyoto School, such as Nishida Keiji, Miki Kiyoshi, and Abe Masao. The thematic focus of the course falls on the understanding of the meaning of nothingness (both relative and absolute) from a philosophical as well as a depth-psychological viewpoint, while questioning the traditional formulation of ontology from an East Asian perspective.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

REL 8400. Topics in Biblical Studies. 3 Credit Hours.
Research and discussion on a selected topic or topics in the biblical studies, including either the Hebrew Bible, the New Testament, or both, as well as a consideration of the relationship of that literature to other writings, including the apocryphal and pseudepigraphic.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

REL 8401. Race, Gender, Class and Ethnicity in Ancient Near East. 3 Credit Hours.
Against the background of the substantial work done in recent years in biblical racial and gender studies, this course explores the ancient Near Eastern, and specifically biblical, origins of diversity and religious nationalism in terms of race, gender, class, and ethnicity. The focus will be on how these apply to particular biblical texts that involve gender, ethnic, and class confrontations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
REL 8402. Violence in Ancient Religion: Pagan, Christian, and Jewish, 50 CE-500 CE. 3 Credit Hours.
Explores examples of coercion, violence, and war resulting primarily from religious motivations within the political framework of the Roman Empire. The rubrics of violence in the cause of freedom, violence due to intolerance, and violence in the cause of ideology will organize the work. The questions of how religious ideas serve the cause of power and how the victims respond in each religion will dominate the seminar. In addition, discovering whether racial or ethnic biases skewed perceptions and inspired conflicts will be important throughout. In order to do this, we must look at the new studies of contemporary scholars who explore definitions of self-identity in antiquity. Who is a “Jew,” a “Greek,” a “Roman,” and a “barbarian”? Finally, analyzing the range of acts, from ignorant prejudice to violence sanctioned by the state through legislation, will aid in the task of situating the phenomena in antiquity within the context of contemporary theories on the problem.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

REL 8403. Holocaust and Representation. 3 Credit Hours.
Building on works by Saul Friedlander, Sidra Ezrahi, James Young, and others, this course raises questions about what it means to represent and remember the Holocaust, focusing on issues of the aesthetic, memory, and the labor of representation. What do art, film, and literature enable in relation to legacies of communal destruction and trauma, and what do they foreclose? Other topics will include: the construction of historical narratives (whose stories? whose texts?), the art of fascism, nazi culture, and questions about the ongoing labor of memory, testimony, and artistic production.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

REL 8405. Women in Ancient Christianity. 3 Credit Hours.
Explores the wide variety of women’s participation in and experiences of early Christianity, from the first century to the fifth. Pays close attention to extent primary evidence and the varieties of ways that this body of evidence is used and interpreted in both theological and historical contexts. Hence the course will combine historical and hermeneutical issues in contemporary scholarship.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

REL 8406. Feminist and Womanist Biblical Interpretation. 3 Credit Hours.
This seminar provides a survey of the history and development of feminist and womanist biblical interpretation in the United States. It includes interpreters of the Hebrew Bible (sometimes called Old Testament) and New Testament in religious and non-religious contexts. Knowledge of Hebrew or Greek is not required.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

REL 8501. Modern Catholicism. 3 Credit Hours.
Focuses on reform movements within the Catholic Church from the 18th-century Enlightenment forward, concentrating particularly on the most recent times. These reform movements, climaxing in Vatican Council II (1962-1965), constitute a Copernican turn in Catholic history and involve at least five dimensions: 1) the turn toward the historical, 2) the turn toward the world, 3) the turn toward freedom/democracy, 4) the turn toward reform, and 5) the turn toward dialogue. Key thinkers include De Chardin, Küng, Schillebeeckx, Haring, and Ruether.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

REL 8502. Women in Ancient Christianity. 3 Credit Hours.
Focuses on the four main figures of Christian tradition in the West: Augustine, Aquinas, Luther, and Calvin. Includes reading of original texts in English translation. Also includes modern works by Troeltsch and Weber.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

REL 8503. Issues in Theology. 3 Credit Hours.
Deals with one or more issues in modern and/or contemporary religious theology.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
REL 8504. Christology in the Ancient Church. 3 Credit Hours.
Explores the emergent ambiguities with regard to the identity of Jesus Christ during the 2nd through the 4th centuries. In order to understand the common person’s view of Christ, we shall read apocryphal acts, lives of saints, sayings of the desert mothers, sayings of the desert fathers, and martyrologies. In addition, we shall examine primary texts of authors known as the Fathers, such as Tertullian, Irenaeus of Lyon, Melito of Sardis, Origen, Eusebius, Basil of Caesarea, Macrina, Gregory of Nyssa, and Gregory of Nazianus. One of the goals is to understand the debates and differences with the context of institutional monastic and ecclesiastical growth.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

REL 8600. Topics in Islamic History. 3 Credit Hours.
Offers one of several topics in classical Muslim history, including the life of the Prophet Muhammad, the early development of the political system and Muslim law, Muslim theories of history, and selected trends in modern Muslim history.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

REL 8601. Islamic Jurisprudence. 3 Credit Hours.
Examines the Muslim legal prescriptions regarding women and war, the two issues for which Islam is most attacked today both in academia and the media. It will consider both the classical law and recent developments. Special attention will be given to the question of flexibility versus rigidity in the law, as well as to the type of society envisioned by the proponents of different interpretations. Current trends and possible future outcomes will be considered. The changing status and role of the religious responsum or fatwa will be probed as well, leading to a discussion of the development of religious authority in Islam.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

REL 8602. Islamic Mysticism. 3 Credit Hours.
Examines the sources, rise and development of Muslim spirituality. The ideal of life and worship in Islam will be studied as the framework for Muslim mysticism. Then the development of spiritual life and thought will be examined, and especially the contribution of noted individuals. Finally, Sufi orders and their role in the life of Muslim society will be considered.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

REL 8603. Islam in Global Perspective. 3 Credit Hours.
This course focuses on contemporary Islam in a global context. It will consider the development of Islamic networks and the emergence of transnational identities among Muslims from places like Africa, Asia, Europe, and the United States. West African Muslim migrants among other groups will be examined for how they respond to the political, economic, and cultural processes of globalization.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

REL 8604. African American Islam. 3 Credit Hours.
This graduate seminar is designed to introduce students to the growing scholarly literature on African American Islam. It will explore the intersection of race, religion, and ethnicity in light of the various ways African American Muslims negotiate their identities and religious practices.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

REL 8700. Topics in African Religions. 3 Credit Hours.
Covers a selected topic or topics in the study of African religions, including some or all of the following: African traditional religions, new African religions, and forms of Christianity and other major religions as practiced and elaborated by Africans.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
REL 8701. African Ideas of God. 3 Credit Hours.
Introduces the conception of God in African traditional spirituality and the implications of such a "theology" on African understanding of humanity. Explores African creation myths, the names and attributes of God in African languages, what people expect from God, and what God expects from people. In doing this, we will address African ethics or the conception of good and evil among Africans. The relationship of African concepts of God with Islam and Christianity will also be discussed, including the beliefs of African practitioners of those religions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

REL 8702. Religions of the African Diaspora. 3 Credit Hours.
Looks at the historical development of African-derived or African-inspired religions in the African diaspora. Particular emphasis will be placed on Camdomble in Brazil, Vodou in Haiti, and Santeria in Cuba, as well as on communities practicing these and related religious traditions in the United States.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

REL 8703. Africana Philosophical Thought. 3 Credit Hours.
Explores a variety of philosophical and metaphilosophical problems in recent African philosophy through an examination of the treatment of the concept of "invention" in the work of several influential philosophers and social theorists.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

REL 8704. Foucault in Africana Thought. 3 Credit Hours.
Examines the two classic phases of Foucault's thought, archaeological and genealogical, and explores the impact they have had on the construction of race, gender, sexual orientation, disciplinarity, secularization, and politics as configured in Africana thought. Includes close readings of Foucault and his impact on the thought of Africana thinkers such as V. Y. Mudimbe, Cornel West, Molefi Asante, Sylvia Wynter, Paget Henry, Joy James, and B. Anthony Bogues.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

REL 8800. Special Topics in Religion. 3 Credit Hours.
A series of special topics in the field of religion, including some of those taught by visiting faculty. Content will vary from semester to semester. Specifics will appear in department course description booklet each semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

REL 8810. Special Topics in Religion. 3 Credit Hours.
A series of special topics in the field of religion, including some of those taught by visiting faculty. Content will vary from semester to semester. Specifics will appear in department course description booklet each semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

REL 9087. Teaching Practicum in Religion Studies. 3 Credit Hours.
This course is for students who are beginning to teach religious studies in a university setting and wish to think about and develop their teaching skills. The course will help teachers in constructing the syllabus, conducting class discussions, designing lectures, getting the most out of student evaluations, using office hours effectively, creating teaching portfolios, working as a teaching assistant, grading, and problem solving around student interactions. The class will involve classroom visits and peer critiques, practical exercises and discussion about problems as they arise, so students should enroll during a semester when they are actually engaged in teaching.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
REL 9182. Individual Study. 1 Credit Hour.
Individual study with a faculty member while in the coursework phase of the program.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

REL 9282. Individual Study. 3 Credit Hours.
Individual study with a faculty member while in the coursework phase of the program.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

REL 9382. Individual Study. 3 Credit Hours.
Individual study with a faculty member while in the coursework phase of the program.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

REL 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
This course fulfills the continuous enrollment requirement after coursework completion while preparing for the Preliminary examinations.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

REL 9996. Master's Thesis Research. 1 to 6 Credit Hour.
Capstone MA course. Student explores a specific topic with his or her MA advisor and writes a thesis of approximately 50 pages. Registration each semester required until thesis approval.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

REL 9998. Pre-Dissertation Research. 1 to 6 Credit Hour.
Pre-Dissertation Research. After having passed the Preliminary exams, registration is appropriate for students working on the dissertation proposal.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

REL 9999. Dissertation Research. 1 to 6 Credit Hour.
Registration required each semester after elevation to candidacy until completion and successful defense of the dissertation.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.
**Student Attribute Restrictions:** Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

**Repeatability:** This course may be repeated for additional credit.

**Risk Management and Insurance (RMI)**
Courses

**RMI 5051. Managing Risk. 1 to 3 Credit Hour.**
Risk Management requires the firm to identify opportunities for gain and exposures to unexpected loss. The firm must then assess the potential consequences, and plan to finance the consequences of the adverse event if it happens. This course is designed to introduce the risk management process in the context of general corporate management. Each step in the process will be reviewed in detail, including setting the risk management context, identification of risk, measurement and analysis of potential impact, and appropriate treatment techniques. Risk financing options will be discussed in the context of global insurance and alternative capital markets. While the risk management process encompasses all types of risks, we will focus our identification discussion on the class of risks known as pure risk events; those that pose the threat of a loss if they happen, but no possibility of a gain.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**RMI 5101. Managing Human Capital. 3 Credit Hours.**
Analysis of the major areas in non-pension employee benefits. Reviews overall considerations in employee benefit design including federal and state regulation, group insurance and the group insurance technique, sources of healthcare benefits, HMOs, PPOs, managed care systems and disability income benefits. Considers flexible benefits plans and funding considerations. Income tax implications and healthcare cost containment issues are also examined. Group and individual life insurance theory and practice and their use in employee benefits plans. Note: Prior to fall 2017, the course title was “Life and Health Insurance and Employee Benefits”.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**
RMI 5301|Minimum Grade of B|May not be taken concurrently
OR RMI 5401|Minimum Grade of B|May not be taken concurrently
OR RMI 5051|Minimum Grade of B|May not be taken concurrently.

**RMI 5102. Retirement Plans. 3 Credit Hours.**
Composed of two sections: 1) Reviews basic features and defined contribution approaches of retirement income. Examines sponsor objectives served by the creation of qualified retirement plans, tax and non-tax qualification requirements, and individual account retirement plans. Subjects: profit sharing plans, Section 401(k) and 403(b), employee stock ownership, cash balance, simplified employee pension, and executive retirement arrangements. 2) explores defined benefit plans and plan administration, fundamentals of pension plans with emphasis on the defined benefit approach to providing retirement income. Subjects: plan design, actuarial aspects (costs and funding), investment of plan assets, and plan termination insurance. Provides a basic foundation of retirement income.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**RMI 5103. Health Risks. 3 Credit Hours.**
Focuses on: 1) special characteristics of risk management in healthcare institutions/agencies; 2) health insurance issues (as benefit for patients and revenue source for providers); 3) health economics (macro) as related to above.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**RMI 5104. The Role of Property and Casualty Insurance Sector in Enterprise Risk Management. 3 Credit Hours.**
Provides a graduate level introduction to the property-liability insurance industry. Attention given to structure of marketplace, regulatory framework, and relationship between the property-liability insurance industry and the firms which it protects. Discusses issues effecting the industry from an economic, legal, and public policy. Applications include product liability, environmental impairment liability, and worker's compensation issues. Note: Prior to fall 2017, the course title was “Property and Liability Insurance”.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**
RMI 5301|Minimum Grade of B|May not be taken concurrently
OR RMI 5401|Minimum Grade of B|May not be taken concurrently
OR RMI 5051|Minimum Grade of B|May not be taken concurrently.
RMI 5105. Advanced Applications in Risk Management. 3 Credit Hours.
Divided into five parts. 1) reviews statistical distributions common in insurance e.g., negative binomial, pareto, and log normal distributions and evaluates their ability to model long-tail losses. 2) considers inferences from insurance data, e.g., the fitting of theoretical distributions using the method of moments and maximum and credibility theory. 3) considers loss reserve runoffs and forecasting future. 4) applies portfolio theory (including correlation analysis) to show the relationship between firm value (net worth) and insurance purchases. 5) reviews discounted cash flow techniques to determine premiums and illustrate financial aspects of captive formation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

RMI 5106. Adv Risk Mgmt Models. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

RMI 5107. Risk Management, Governance and the Role of the Board. 3 Credit Hours.
Large scale failures of firms such as Enron, WorldCom, Adelphia, and a long list of others are widely viewed as failures of corporate governance. These cases have drawn significant regulatory attention to the role of corporate governance in preventing or contributing to those failures. One outcome of this increasing scrutiny is the emergence of Enterprise Risk Management (ERM) as a framework for managing risk while maximizing shareholder value in today's complex environment. Board members and senior officers are facing increasing scrutiny of their ERM processes from ratings organizations, standards setting agencies, regulators, clients and investors. Each of these has expectations for the role that the Board of Directors plays in managing risk across the organization. This course will focus on the relationship between corporate governance and ERM, using case analysis and discussion of both US and international governance and ERM standards, and Directors' and Officers' liability.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
RMI 5301|Minimum Grade of B|May not be taken concurrently
OR RMI 5401|Minimum Grade of B|May not be taken concurrently
OR RMI 5051|Minimum Grade of B|May not be taken concurrently.

RMI 5108. International Risk Management. 3 Credit Hours.
The risks of doing business in international markets continue to increase. Emerging, developing, and developed markets are becoming less open to foreign direct investment, joint ventures/partnerships, and even imports since the global recession began in 2008. In addition, regulatory risk, corruption, and supply chain disruptions are on the increase. Natural and environmental disasters, cyber-attacks, and geopolitical conflicts are important concerns as well. This course will examine a sample of the risks facing firms operating in the global marketplace. We will use the enterprise risk management framework to identify some significant risks facing firms operating outside their home markets and the strategies, including insurance, that can be used to help mitigate against those risks.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
RMI 5301|Minimum Grade of B|May not be taken concurrently
OR RMI 5401|Minimum Grade of B|May not be taken concurrently
OR RMI 5051|Minimum Grade of B|May not be taken concurrently.
RMI 5109. Operational and Strategic Risk Management. 3 Credit Hours.
This course includes the study of both Strategic and Operational Risk Management. Operational Risk, broadly speaking, arises from the management of human capital, operational processes and systems including but not limited to other specialized functions such as managing information technology, physical security, supply chain, and environmental health and safety. This course will review and discuss these risks in detail. The curriculum includes the application of risk analysis frameworks and metrics; the development of common mitigation techniques, such as IT security, risk financing, business continuity planning and implementation; and, will examine the most common operational factors that give rise to risk that may cause firms to fail. This course will also review and discuss operational risk management case studies. Strategic Risk Management, according to the Risk and Insurance Management Society, is a business discipline that drives deliberation and action regarding uncertainties and untapped opportunities that affect an organization's strategy and execution. The strategic planning process results in the firm making significant investments to address stakeholder needs and drive long term growth. This begs the question: how can a firm set its overall appetite for risk, and evaluate competing strategic initiatives from a risk/reward perspective in the context of its existing portfolio of risks? The second half of the course will, therefore, explore the connections between strategy and enterprise risk management, including the concepts of risk capacity, risk appetite/tolerance, and risk profile. It will also look at the role of enterprise risk management in effective decision-making and governance from the perspective of a firm's board of directors. Finally, this course will explore several Strategic Risk Management cases including the exploration of how corporate boards address risks that can lead to stakeholder litigation and possible bankruptcy because of damage to reputation, failed mergers, and failure to innovate.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
RMI 5301|Minimum Grade of B|May not be taken concurrently
OR RMI 5401|Minimum Grade of B|May not be taken concurrently
OR RMI 5051|Minimum Grade of B|May not be taken concurrently.

RMI 5170. Special Topics. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

RMI 5182. Independent Study. 1 to 6 Credit Hour.
Special study in a particular aspect of insurance and risk under the direct supervision of appropriate graduate faculty member. No more than six hours of independent study may be counted toward degree requirements.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

RMI 5190. Special Topics - Risk Management and Insurance. 1 to 6 Credit Hour.
Special topics in risk management and insurance.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

RMI 5282. Independent Study. 1 to 3 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

RMI 5301. Enterprise Risk Management. 1.5 Credit Hour.
Effective risk management is an integral part of an efficient and successful organization. Risk Management cuts across all disciplines and all levels, throughout the organization. For a firm to be successful in today’s global economy, risk management must be tightly tied to firm strategy. Risk management is focused on maximizing the firm's value rather than avoiding adverse consequences. Enterprise risk management identifies and manages all serious risks across an organization in a coordinated way. Risk Management requires the firm to identify opportunities for gain and exposures to unexpected loss. The firm must then assess the potential consequences, and plan to manage the consequences of an adverse event if it happens.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.
RMI 5401. Enterprise Risk Management. 1.5 Credit Hour.
Effective risk management is an integral part of an efficient and successful organization. Risk Management cuts across all disciplines and all levels, throughout the organization. For a firm to be successful in today’s global economy, risk management must be tightly tied to firm strategy. Risk management is focused on maximizing the firm’s value rather than avoiding adverse consequences. Enterprise risk management identifies and manages all serious risks across an organization in a coordinated way. Risk Management requires the firm to identify opportunities for gain and exposures to unexpected loss. The firm must then assess the potential consequences, and plan to manage the consequences of an adverse event if it happens.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

RMI 5801. Enterprise Risk Management. 3 Credit Hours.
This course is designed to introduce the risk management process in the context of general corporate management. Each step in the process will be reviewed in detail, including setting the risk management context, identification of risk, measurement and analysis of potential impact, and appropriate treatment techniques. Risk financing options will be discussed in the context of global insurance and alternative capital markets.

Department Restrictions: Must be enrolled in one of the following Departments: Business: Fox School Business.
Level Registration Restrictions: May not be enrolled in one of the following Levels: Undergraduate.

Repeatability: This course may not be repeated for additional credits.

RMI 5882. Independent Study. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

RMI 5890. Special Topics - RMI. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

RMI 9001. Seminar-Property and Liability Insurance Markets. 3 Credit Hours.
In this course, economic, financial, and legal research issues in property-liability insurance are examined. Economic issues explored include (but are not limited to) corporate demand for insurance, domestic and international underwriting cycles, risk classification, and adverse selection. Coverage of pricing, profits, and regulation of insurers explicitly incorporate financial principles, including option pricing, discounted cash-flow ratemaking methods, and the capital asset pricing model. Legal issues focus on liability principles and tort reform. Students will learn institutional features of property-liability insurance to the extent necessary to interpret the research covered.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

RMI 9002. Seminar-Life Insurance and Employee Benefits. 3 Credit Hours.
A workshop approach is used to study the financial aspects of retirement plans, the macroeconomics aspects of pensions and health plans in the context of an aging population, and the microeconomics of retirement and income security. Students learn the steps needed to formulate a research strategy, including writing a proposal, developing hypotheses, and determining empirical tests of these hypotheses.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

RMI 9003. Seminar in Risk Theory. 3 Credit Hours.
Readings will cover the basic mathematical theory of risk: utility-theoretic foundations, finite-horizon individual and collective risk models, infinite horizon models, and the role of reinsurance. Students will make presentations or write papers on areas of current research activity, such as: applications of diffusion processes, the use of insurance-based securities, and the impact of risk-based capital regulatory requirements.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
RMI 9004. Healthcare Finance and Insurance. 3 Credit Hours.
This seminar provides a set of technical skills and knowledge base for the analysis of healthcare financing in different countries. It is designed to be of use to those working: in Ministries of Health, Ministries of Finance, or private insurance companies around the globe; in the economics and marketing departments of international pharmaceutical companies; or on the staff of international agencies. There will be a series of short assignments, two papers, and an exam. It is anticipated that some students will use the assignments as a starting point for their dissertation proposals.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

RMI 9005. Law and Economics of Liability Markets. 3 Credit Hours.
This seminar will cover the theoretical and empirical literature of the law and economics of liability. Insurance and tort (and their interaction) are the two major compensations systems and will be a focal part of the class, but others such as administrative compensation funds will be discussed. The first half of the class will focus on the economic theory underlying liability and liability financing. The second half of the class will focus on empirical studies of the law and economics of various markets and public policy responses to liability issues.

Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Philosophy.

Repeatability: This course may not be repeated for additional credits.

RMI 9090. Spec Topic Risk Mgt. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

RMI 9183. Directed Study-Risk Mgt. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

School of Medicine (MEDS)

Courses

MEDS 5003. Fundamentals of Biochem. 4 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MEDS 5004. Fundamentals of Physiology. 4 Credit Hours.
Fundamentals of Physiology addresses important topics including membranes and membrane transport, excitation and contraction of skeletal, smooth and cardiac muscle, the heart and blood flow, renal physiology and lung physiology. Important medically related examples will be discussed. Course syllabus will be provided by the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MEDS 5006. Microbio and Immunology. 4 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MEDS 5007. Human Anatomy. 4 Credit Hours.
Human Anatomy provides instruction in gross anatomy for postbac students. Important medically related examples will be discussed. Course syllabus will be provided by the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
MEDS 5008. Medical Pharmacology. 4 Credit Hours.
Medical Pharmacology provides instruction in pharmacology for postbac students. Important medically related examples will be discussed. Course syllabus will be provided by the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MEDS 5009. Biochemistry of Life Systems. 2 Credit Hours.
This course provides students with an understanding of the basic principles of biochemistry related to pre-health competencies tested by the MCAT. Topics related to these competencies include: protein structure and function; enzyme function and regulation; transmission of genetic information, membrane structure and composition, bioenergetics, fuel metabolism and cell signaling. NOTE: This course fulfills a requirement for students enrolled in the Basic Core in Medical Sciences (BCMS) Post Baccalaureate Program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MEDS 5010. Special Topics in Medicine. 3 Credit Hours.
Special Topics in Medicine discusses important topics in medicine including translational research and evidence based medicine for postbac students. Course syllabus will be provided by the course director.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MEDS 5011. The Application of Physical Principles to the Understanding and Practice of Medicine. 4 Credit Hours.
The principles of the physical world are the foundation of many diagnostic and therapeutic modalities used in the practice of medicine as well as essential physiological processes. This course is offered every fall to provide students with an understanding of the principles and applications of physical science to biological systems and medicine. The application of physical science to medicine will be subdivided into three sections: relationship to human organ function, imaging and diagnosis, and therapies. Topics in the first section include heat, electricity, sound and light waves, and fluids. The second section will describe their application to microscopy, MRI, CT, X-ray, PET and ultrasound imaging. The final section includes therapies for treating disease. The course is lecture based and includes problem solving and presentations by practicing physicians. This course fulfills a requirement for students enrolled in the Basic Core in Medical Sciences post-baccalaureate program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MEDS 8004. Macromolecules. 4 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

MEDS 8010. Seminar Clinical Res. 1 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MEDS 8020. Crit Lit Clin Transl Res. 2 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MEDS 8030. Grant Writing: Clin Res. 2 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

MEDS 8051. Intro to Biostatistics. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
MEDS 9995. Res Prjct Clin/Trnsl Med. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

School Psychology (SPSY)

Courses

SPSY 5667. Introduction to Cognitive Assessment. 3 Credit Hours.
Intensive overview and training with diagnostic instruments of cognitive abilities. Practice with specific tests of intelligence, memory, and cognitive processing. Introduction to the assessment of adaptive behavior. Discussion of theories of cognitive functioning and research literature on intelligence testing.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: School Psy Clinical Clearance.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
SPSY 5667|Minimum Grade of C-|May not be taken concurrently.

SPSY 5671. Advanced Cognitive Assessment. 3 Credit Hours.
The purpose of this course is to develop advanced skills in the individual assessment of intelligence and cognitive functioning. One major component of the course will be learning additional tests of cognitive skills. The second major component will be assessment of children ages birth to six. The third major component will be assessment of children from a variety of cultural, language, and other backgrounds. Successful students will become familiar with test administration, scoring, and interpretation of a variety of instruments and techniques (including the DAS-II, SB5, Bayley-III, memory and nonverbal tests, and dynamic assessment and TPBA), as well as gain practice in demands analysis and integrating assessment findings. Students will also become familiar with issues of diagnosis in young children, issues of assessment of children from different cultural, ethnic, and language backgrounds, and issues in working with parents and families.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

SPSY 5672. Personality and Psychotherapy. 3 Credit Hours.
Covers major theories of personality and psychotherapy, and applications to counseling, assessment, and projective testing in the schools.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: School Psy Clinical Clearance.
Repeatability: This course may not be repeated for additional credits.

SPSY 5673. Introduction to the Diagnostic Process. 3 Credit Hours.
Discussion of the integration of data from case histories, observations, interview and tests in making differential diagnosis. Diagnosis using DSM-IV-TR and educational identification under special education law with both covered. Overview of major diagnostic categories found in schools. Comprehensive study of skills in interviewing, report writing, systematic observation of child behavior, and evaluation of teaching effectiveness. Major emphasis on conceptualizing and writing recommendations for educational remediation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

SPSY 5674. Social and Behavioral Assessment for Intervention. 3 Credit Hours.
Intensive training with diagnostic instruments of personality and behavior. Discussion of educational planning and remedial techniques in relation to personality and behavioral dynamics of children. Emphasis also on theoretical constructs in understanding learning and behavioral difficulties in children.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
SPSY 5676. Applied Behavior Analysis. 3 Credit Hours.
Introduction to the functional analysis of behavior of children in the school setting. Includes behavior theory, assessment, interaction, and evaluation. A behavior-change program is conducted.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

SPSY 5771. Physiological Psychology. 3 Credit Hours.
This course is for graduate students in training to be psychologists. It introduces students to the biological bases of behavior, with a focus on brain-behavior relationships.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: School Psy Clinical Clearance.
Repeatability: This course may not be repeated for additional credits.

SPSY 8621. Academic Assessment and Intervention. 3 Credit Hours.
This course is intended to introduce pre-service school psychologists to the theories, skills, and ethical and legal considerations of academic assessment in school settings. The assessment class will be taught within the over-arching framework of an ecological, multi-tiered assessment model. The link between assessment and instructional decision-making will be emphasized throughout the course, with attention to assessment practices for learners with diverse needs and providing instructional support to teachers. Students enrolled in the course will learn how to select, design, administer, score, interpret, and report results for a variety of assessment approaches related to monitoring instructional efficacy and learner outcomes in a standard-aligned model. Assessment approaches will include: (a) authentic; (b) screening; (c) diagnostic; (d) formative; (e) benchmark; and (f) summative.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
Pre-requisites:
SPSY 5676|Minimum Grade of B|May be taken concurrently.

SPSY 8770. Seminar: Special Topics in School Psychology. 3 Credit Hours.
Advanced seminar considering the literature in a specific area of school psychology research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

SPSY 8771. Social Psychology of Education. 3 Credit Hours.
Discussion of principles of social psychology as applied to the school as an institution. Emphasis on the psychology of planned educational change. Theoretical bases of the process of change and innovation within the schools. Rationale for intervention strategies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: School Psy Clinical Clearance.
Repeatability: This course may not be repeated for additional credits.

SPSY 8772. Seminar: Role and Function of the School Psychologist. 3 Credit Hours.
Analysis of role and functions of school psychologists. Study of relevant research dealing with varied roles the school psychologist can play within the school system and in other settings. Consideration of legal and ethical practices in school psychology.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
**SPSY 8773. Challenges to Development: Child and Adolescent Psychopathology. 3 Credit Hours.**
This course will look at child psychopathology from a development perspective, covering typical social-emotional and cognitive development and then examining how this gets disrupted or otherwise altered to result in child and adolescent psychopathology. We will examine classification systems and models of diagnosis and disease, as well as alternatives to the more traditional “medical model” such as examining risk, resilience and the role of psychosocial and cultural factors. The course will aim to teach students to identify potential mental/behavioral health issues in children and adolescents, and then understand and be able to explain to others what the implications of this might be for a given child or teen. Students will think critically about the ethics and issues of controversy around child and adolescent mental health.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**SPSY 8774. Professional Issues and Literature in School Psychology. 3 Credit Hours.**
Doctoral seminar in professional issues and the research literature in school psychology. Required for School Psychology Ph.D. students.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**SPSY 8775. Legal and Ethical Problems and Professional Responsibility. 3 Credit Hours.**
This course familiarizes advanced graduate students in psychological studies with ethical principles and codes of conduct as well as legal requirements and legislative outcomes to guide our practice as psychologists and pupil services employees/administrators. The APA Ethical Principles and Code of Conduct and NASP Professional Conduct Manual will be perused, as well as PA Law governing the licensure and practice of psychologists. Also covered in this course will be federal and state law related to regular and special education, civil rights, and gifted education. Case law surrounding these issues will be explored.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Student Attribute Restrictions:** Must be enrolled in one of the following Student Attributes: SchoolPsyClinicalClearance.

**Repeatability:** This course may not be repeated for additional credits.

**SPSY 8776. History and Systems of Psychology. 3 Credit Hours.**
This course is for graduate students in training to become psychologists. It introduces students to the history of psychology and the theoretical schools of psychology practice. It is required for students in the School Psychology PhD program.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**SPSY 8777. Psychotherapeutic Strategies. 3 Credit Hours.**
A study of the application of psychotherapeutic techniques, with an emphasis on group techniques, in the school setting.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Student Attribute Restrictions:** Must be enrolled in one of the following Student Attributes: SchoolPsyClinicalClearance.

**Repeatability:** This course may not be repeated for additional credits.

**SPSY 8780. Topical Seminar in School Psychology. 1 to 6 Credit Hour.**
Special topics of interest to the school psychologist. Topics may include therapeutic problems, school discipline problems, parenting and remediation strategies. Topics may vary.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**SPSY 8787. Seminar on Verbal Behavior. 3 Credit Hours.**
Advanced course in applied behavior analysis with an emphasis on verbal behavior. Designed to provide students with an overview of verbal behavior (as defined in the field of applied behavior analysis) and an overview of its practical application in teaching language to children with diagnosed language delays.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**
SPSY 5676|Minimum Grade of B-|May not be taken concurrently.
SPSY 9487. Practicum in School Psychology. 1 to 3 Credit Hour.
Practicum in School Psychology that is not included in one of the established practicum courses.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: School Psychology.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: School Psy Clinical Clearance.

Repeatability: This course may be repeated for additional credit.

SPSY 9587. School Consultation. 3 Credit Hours.
Extensive school practicum (practicum of 3 hours per week) consulting with teachers regarding behavior change, instructional consultation, and mental health consultation. Includes assessing treatment integrity.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: School Psy Clinical Clearance.

Repeatability: This course may be repeated for additional credit.

SPSY 9687. Clinical Supervision Seminar in School Psychology. 3 to 12 Credit Hours.
Case studies by the student in the Psychoeducational Clinic (taken concurrently) are reviewed in depth. Assessment, observations, interviews, diagnosis, educational identification, and remedial strategies are covered. Open only to matriculated school psychology students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: School Psy Clinical Clearance.

Repeatability: This course may be repeated for additional credit.

SPSY 9688. Psychoeducational Clinic. 3 Credit Hours.
A practicum course providing supervised training in psychoeducational assessment and counseling of children with learning problems. Open only to matriculated school psychology students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: School Psy Clinical Clearance.

Repeatability: This course may be repeated for additional credit.

SPSY 9787. Practicum on Children with Low Incidence Disabilities. 3 to 6 Credit Hours.
Supervised experience in schools or related settings assessing students with a variety of disabilities.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: School Psy Clinical Clearance.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(PSY 8772|Minimum Grade of B-|May not be taken concurrently
AND SPSY 9687|Minimum Grade of B-|May not be taken concurrently)
SPSY 9885. Internship in School Psychology. 3 to 12 Credit Hours.
Supervised internship as a full-time school psychologist in an approved school system, intermediate unit, or consortium.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: School Psy Clinical Clearance.

Repeatability: This course may be repeated for additional credit.

SPSY 9982. Independent Study in School Psychology. 1 to 6 Credit Hour.
Intended to meet the needs of students in school psychology who desire to carry on an individual investigation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPSY 9986. Internship in School Psychology. 1 to 12 Credit Hour.
Supervised internship as a school psychologist in an approved school system, intermediate unit, or consortium.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: School Psy Clinical Clearance.

Repeatability: This course may be repeated for additional credit.

SPSY 9999. Doctoral Dissertation. 1 to 6 Credit Hour.
Registration limited to candidates for the doctorate who have successfully completed the minimum number of semester hours required for the degree and the preliminary examination. Continuous registration during the fall and spring terms is required until the dissertation has been completed, successfully defended, and accepted by the Graduate School.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student, School Psy Clinical Clearance.

Repeatability: This course may be repeated for additional credit.

Science Education (Elementary) (SCEE)

Courses

SCEE 5401. Pre Sch & Elem Sci N-6. 3 Credit Hours.
This course prepares students to teach the sciences in the elementary and middle grades. This course teaches how to design and teach inquiry-based science lessons that support elementary and middle school students' constructivist learning for deep understanding. Students in this course will practice designing and teaching inquiry-based lessons. They will experience inquiry-based science lessons and laboratories first-hand. This will familiarize them with the instructional approach and teach them specific science. They will also learn to review video and other resources to determine elementary and middle school students' misconceptions about the same science. Students in this course will practice integrate all this information as they design and teach inquiry-based lessons on e.g. energy, body systems, the seasons, density, and the water cycle. For their final project, students will research, design, and teach an inquiry-based lesson on a science topic of their own choosing. Learning how to manage the inquiry-based science classroom will be emphasized throughout the course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Science Education (Secondary) (SCES)

Courses

SCES 5415. Tchg Sci Sec Sch Tchers. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SCES 5713. L&T Hi Sch Bio/Phys/Chem. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
SCES 5714. L&T Mid Sch Bio/Phy/Chem. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

SCES 8726. Demonstrations in Sci. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

SCES 8727. Critical Iss in Math/Sci. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

SCES 8728. Curr Pract in Math/Sci. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

SCES 9782. Special Projects. 1 to 4 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

Science, Secondary Education (SCSE)

Courses

SCSE 8765. Lab Exper Rel Hist Sci. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Sculpture (SCLP)

Courses

SCLP 8183. Graduate Projects: Sculpture. 3 to 6 Credit Hours.
This class gives the graduate student a chance to formally meet with their peers in a group critique situation to discuss their own work or that of their classmates. Individual meetings with the instructor are another component. The class also makes visits to emerging artists’ studios in New York and Philadelphia. Note: This course can only be taken twice for credit.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Painting, Sculpture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.
Repeatability: This course may be repeated for additional credit.

SCLP 8184. Graduate Projects: Sculpture II. 3 to 6 Credit Hours.
This class gives the graduate student a chance to formally meet with their peers in a group critique situation to discuss their own work or that of their classmates. Individual meetings with the instructor are another component. The class also makes visits to emerging artists’ studios in New York and Philadelphia. Note: This course can only be taken twice for credit.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Painting, Sculpture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.
Repeatability: This course may be repeated for additional credit.
SCLP 8503. Graduate Sculpture Seminar. 3 to 6 Credit Hours.
This class gives the graduate student a chance to formally meet with their peers in a group critique situation to discuss their own work or that of their classmates. Individual meetings with the instructor are another component. The class also makes visits to emerging artists’ studios in New York and Philadelphia. Note: This course can only be taken twice for credit.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Painting, Sculpture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

SCLP 8513. Graduate Sculpture Seminar II. 3 to 6 Credit Hours.
This class gives the graduate student a chance to formally meet with their peers in a group critique situation to discuss their own work or that of their classmates. Individual meetings with the instructor are another component. The class also makes visits to emerging artists’ studios in New York and Philadelphia. Note: This course can only be taken twice for credit.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Painting, Sculpture.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

Secondary Education (SECE)

Courses

SECE 5471. Literacy and Differentiation in the Academic Areas, 7-12. 3 Credit Hours.
This course examines ways in which secondary teachers can support all students’ development of the complex literate knowledge, strategies, and practices required to achieve deep understandings of essential concepts and skills in an academic or vocational area. The course conceptualizes academic literacies broadly to include written, spoken, graphic, and visual “texts” used both as objects of instruction and supports for learning. Taking a “back-to-front” approach to curriculum design, students develop instructional activities to enable learning of specialized vocabularies, as well as reading and writing in various genres and modes. They learn to differentiate those activities so as to address differences in student backgrounds, interests, language use, learning preferences, and background knowledge.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Social and Behavioral Sciences (SBS)

Courses

SBS 5001. Fundamentals of Public Health. 3 Credit Hours.
This course encompasses historical and sociocultural approaches to understanding public health and bioethics. Emphasis is on understanding public health systems from the dawn of history to the 21st century and the evolution of bioethical issues including the application of bioethical principles, regulations, and strategies in research and health practice. This seminar emphasizes the integration of conceptual and experiential learning. This is reflected in the course design and in teaching and learning processes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Social Work.

Repeatability: This course may not be repeated for additional credits.

SBS 5004. Understanding Stress and Change. 3 Credit Hours.
This course focuses on the impact of stress on physical and emotional health and quality of life. It focuses on the causes, types, and physiology of stress and stress reduction methods, including relaxation, biofeedback, fear control, cognitive restructuring, and social psychological interventions in community settings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
SBS 5005. International Health Studies Abroad. 6 Credit Hours.
Students learn to articulate a historical and cultural understanding of the Costa Rican approach to health and medical care, to identify the major health concerns of the Costa Rican population in rural and urban settings and the major strides taken to improve health, to conduct limited fieldwork with rural communities in teams of 3 to 4 persons or conduct community health field research among the graduate students, and to write a professional paper and presentation on one of the health issues in Costa Rica based on their experience there. While previous Spanish language proficiency is not required, some Spanish language ability is essential for students to gain the maximum understanding during the program. Therefore, students during the first two weeks of the program take intensive Spanish language training in Costa Rica at the Institute for Central American Development Studies (ICADS). The third week involves travel to other regions within Costa Rica to examine different health conditions depending on the year's topics. During the fourth and fifth weeks, students live and work in rural communities and help to facilitate health education workshops on different activities such as: diabetes, nutrition, HIV/AIDS prevention education, women's health, child health care issues, first aid education, fitness and exercise, and backyard gardening.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SBS 5009. Risk Communication and Public Health. 3 Credit Hours.
The goal of this course is to demonstrate how health communication professionals can create and implement risk communication plans related to either possible or actual public health hazards (anything that can cause morbidity or mortality). This course focuses on risk communication within the context of terrorism, infectious disease outbreaks, and health problems that occur because of natural disasters. It will include core principles of risk communication, examine special challenges of risk communication with diverse audiences, and prepare students to create a crisis and emergency risk communication plan.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SBS 5015. Public Health Nutrition. 3 Credit Hours.
This seminar course explores nutrition as a science and platform for public health promotion and disease prevention. The fundamental contribution of nutrition to public health as well as the potential of food and nutrition policy, programs, and interventions to reduce risk and promote health are examined.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SBS 5102. Theoretical Foundations of Health Behavior. 3 Credit Hours.
Theories of decision-making related to health behavior. Emphasis on the dynamic interaction of attitudes, values, situational factors and other factors that influence health promoting and health damaging behavior.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Social Work.

Repeatability: This course may not be repeated for additional credits.

SBS 5104. Models for Teaching Health and Patient Education. 3 Credit Hours.
This course deals with the description and application of teaching models used in health and patient education in communities, health care systems, and schools. There is an emphasis on creating learning environments, communication skills, tailoring for diverse populations, and teaching techniques.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SBS 5105. Maternal and Child Health. 3 Credit Hours.
This seminar on maternal and child health (MCH) focuses on health problems and diseases affecting pregnant and postpartum women and their children from the individual, community, and national perspectives. The course highlights the impact of common health problems and their functional outcomes in terms of morbidity, mortality, psychological well being, reproduction and growth. Students will examine social, behavioral, systems and broader population determinants of maternal and childhood diseases, as well as interventions and programs designed to address MCH problems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
SBS 5500. Seminar in Current Issues in Public Health. 3 Credit Hours.
Seminar topics rotate to address current issues in public health research, policy and practice.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Social Work.

Repeatability: This course may be repeated for additional credit.

SBS 8001. Research Methods in Public Health. 3 Credit Hours.
This course examines how to develop and test models, formulate research problem statements and hypotheses, and implement and evaluate research designs and methods of data collection in public health research. It concentrates on fundamental concepts in research design and measurement that help prepare the student to plan and implement theoretically informed and methodologically sound scientific studies in public health and to critically evaluate and discuss public health research. The course emphasizes ethical and practical methods of studying and evaluating causal relations (efficacy and internal validity); determining generalizability of observations (effectiveness, external and ecological validity); and accurate and reliable measuring and conceptualizing of variables (construct validity). In addition, it covers systematic literature searches and randomized controlled trials, which are both increasingly important methods for conducting research in public health.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Social Work.

Repeatability: This course may not be repeated for additional credits.

SBS 8002. Research Seminar in Public Health. 3 Credit Hours.
This is a research seminar on linkages between theory and research in social and behavioral health studies. It is required for Ph.D. students prior to taking the preliminary examinations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SBS 8005. Health Promotion in Vulnerable Populations. 3 Credit Hours.
This course is designed to help students develop a deep understanding of the potential causes of and solutions to health disparities. Health disparities are defined as unequal, unfair, and preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health. Health disparities experienced by vulnerable populations are well documented in the United States. This course will review, critically appraise and discuss social and behavioral sciences theory and research on the physical, mental, and social vulnerabilities contributing to the poor health of subgroups of the American populace. Readings and discussions will also focus on challenges as well as approaches to engaging vulnerable and hard-to-reach populations in social and behavioral intervention research aimed at improving health outcomes. Specifically, this course will cover social and behavioral science theories; methodological and recruitment challenges and strategies; approaches to intervening at the individual, community, and system levels; and approaches to developing and adapting interventions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SBS 8006. Addictions and Dependencies. 3 Credit Hours.
Social, psychological, cultural, clinical, and biological factors associated with addictions and dependencies, including the use of psychoactive drugs and lifestyle behaviors, are covered. Reviewed are prevention and treatment approaches based on the causes and correlates of addictions and dependencies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Social Work.

Repeatability: This course may not be repeated for additional credits.

SBS 8009. Health Psychology. 3 Credit Hours.
Through class lecture, readings, and discussions, students will learn how characteristics of persons (e.g., personality, behavior, coping, and biological reactivity) and their environments (e.g., stress and social support) influence health outcomes at the individual and population level. In addition, the course examines the potential of health psychology to explain population-level health problems and to ameliorate public health problems through behavioral and community-based interventions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health, Social Work.

Repeatability: This course may not be repeated for additional credits.
SBS 8018. Obesity: From Genes to Junk Food. 3 Credit Hours.
The course will broadly explore the etiology, treatment, and prevention of obesity from a multilevel systems perspective. Genetic, epigenetic, physiological, and psycho-social influences will be considered at the level of the individual. These influences will also be considered within family, school, and work-site contexts. Macro-level influences include government policies and programs, media, food industry influences, and community resources. Critical thinking skills and scholarly exchange will be emphasized through classroom discussion and weekly presentations/critiques of emerging science in each topic area.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
EPBI 5101|Minimum Grade of B-|May not be taken concurrently
OR PBHL 5101|Minimum Grade of B-|May not be taken concurrently
OR EPBI 5201|Minimum Grade of B-|May not be taken concurrently
OR PBHL 5201|Minimum Grade of B-|May not be taken concurrently.

SBS 8105. Health Communication. 3 Credit Hours.
This course examines levels of communication processes and effects in 1) intrapersonal health communication related to personality, attitudes, cognitive style, and quality of life; 2) interpersonal communication in the patient-caregiver relationships, including dynamics of stress, conflict, and social support; 3) organizational communication in health-care settings; 4) mass communication processes, including media campaigns to promote good health and disease prevention; and 5) risk communication across settings and strategies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SBS 8111. Public Health Program Planning. 3 Credit Hours.
This course covers program planning in public health practice. It analyzes national health objectives and their applications at the state and community levels. One emphasis is on program planning as a change strategy to alter knowledge, attitudes, and health behavior to achieve positive health outcomes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(EPBI 5101|Minimum Grade of B-|May be taken concurrently
OR PBHL 5101|Minimum Grade of B-|May be taken concurrently
OR EPBI 5201|Minimum Grade of B-|May be taken concurrently
OR PBHL 5201|Minimum Grade of B-|May be taken concurrently)
AND (EPBI 5002|Minimum Grade of B-|May be taken concurrently
OR PBHL 5002|Minimum Grade of B-|May be taken concurrently
OR PBHL 5102|Minimum Grade of B-|May be taken concurrently)
AND (SBS 5102|Minimum Grade of B-|May be taken concurrently
OR PBHL 5102|Minimum Grade of B-|May be taken concurrently)

SBS 9083. Readings and Conference in Public Health. 1 to 3 Credit Hour.
This is an advanced tutorial in public health with an appropriate faculty member. Note: Registration requires a written contract with the supervising faculty member and approval of the student's advisor and of the Director of Graduate Programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SBS 9189. MPH Capstone Seminar. 3 Credit Hours.
This seminar is required of M.P.H. students during final year of study. The seminar includes integration of coursework and practice skills to develop a fieldwork project or internship in a public health agency.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
SBS 9289. MPH Fieldwork I. 3 Credit Hours.
This course entails a fieldwork project or internship in a public health agency. It includes seminars, oral and written reports of progress, and joint supervision by a preceptor and faculty member.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SBS 9389. MPH Fieldwork II. 3 Credit Hours.
This course is an evaluation of the fieldwork project or internship using a full range of research methodologies. Data are collected, analyzed, and reported in a comprehensive final report. Oral and/or poster presentations are presented to public health organizations. The course includes a final oral defense of the project or internship.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SBS 9994. Preliminary Examinations. 1 Credit Hour.
This course supports preparation for taking the preliminary examinations in the Health Policy and Social and Behavioral Sciences Ph.D. programs. To enroll, students must have completed all required coursework for the Ph.D. and obtain the approval of the Ph.D. Program Director. Students must be enrolled to take the required preliminary examinations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SBS 9996. Masters Res in Pub Hlth. 3 Credit Hours.
This course is limited to students who have chosen to fulfill the master's degree by writing a thesis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SBS 9998. Dissertation Proposal Research. 2 Credit Hours.
This course supports preparation of the dissertation proposal. The course is required for students who have passed the preliminary examinations for their PhD program and who have not yet defended the dissertation proposal.

Department Restrictions: Must be enrolled in one of the following Departments: CPH:Social/Behavioral Sciences.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Doctor of Philosophy.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
SBS 9994|Minimum Grade of P|May not be taken concurrently.

SBS 9999. Dissertation Research. 1 to 6 Credit Hour.
This course is limited to Ph.D. candidates who have completed and defended a dissertation proposal that is filed with the Graduate School by the last day to add a course in the semester. Continuous registration in 9999 fall and spring is required until the dissertation is successfully defended.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.

Social Studies Education (Elementary) (SSEE)

Courses

SSEE 5451. Tchg Social Stds N:6. 3 Credit Hours.
This course is available for students interested in becoming eligible for certification at the N-6 level. Content covered includes teaching strategies for social studies for elementary school children that address geography, civics history, and economics. A special project is required.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
SSEE 8763. Curriculum in Social Studies. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Social Studies Education (Secondary) (SSES)

Courses
SSES 5465. Meth & Matrls Sec Soc St. 3 Credit Hours.
This course is available for students interested in becoming eligible for certification at the 7-12 level in social studies. Content covered includes theoretical propositions underlying pedagogical approaches; issues in diversity and social justice in the classroom; and instructional materials and teaching strategies for secondary social studies. A special project is required. Contact a social studies adviser for further information.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

SSES 5466. Teaching for Understanding in Secondary Social Studies. 3 Credit Hours.
This course focuses on applied social studies methods; the course objectives are (1) that pre-service social studies teachers will learn about the rich resources found at museums, archives, and historic sites and (2) that they will have an opportunity to apply what they have learned in the program to developing curricular materials. There is a required field experience for which students are placed at Philadelphia area cultural institutions. Students will be developing collections and curriculum materials for schools and teachers in general and for National History Day. Class time will be devoted to strengthening and supporting the field experience.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(EDUC 5402|Minimum Grade of B-|May not be taken concurrently
AND EDUC 5605|Minimum Grade of B-|May not be taken concurrently)

Social Work (Graduate) (SSWG)

Courses
SSWG 5000. Special Topics in Social Work. 1 to 3 Credit Hour.
Topics vary.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

SSWG 5001. HBSE: Individuals and Families. 3 Credit Hours.
This is a foundation-level course in theories in human behavior designed to undergird social work practice with individuals and families. Diverse developmental theories along with psychoanalytic, social learning, cognitive-behavioral, theories of power, and feminist and Afrocentric perspectives are studied and critically evaluated.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
SSWG 5001|Minimum Grade of C-|May not be taken concurrently.

SSWG 5002. HBSE: Groups, Communities and Organizations. 3 Credit Hours.
This is a foundation-level course in theories in human behavior designed to undergird social work practice with groups, organizations, and communities. Diverse structures, functions, dynamics, developmental models, and theories of these system levels, including issues of power and empowerment, are studied and critically evaluated.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
SSWG 5001|Minimum Grade of C-|May not be taken concurrently.
SSWG 5003. Foundations in Social Work Research. 3 Credit Hours.
This is the foundation course in research methods in the MSW program. This course provides graduate social work students with a basic understanding of social work research methods. The philosophy of traditional scientific inquiry will be presented along with a postmodern orientation to knowledge building. Students will learn quantitative deductive and qualitative inductive approaches to empirical study of social work problems. Critical thinking about knowledge, values and ethics regarding problem formulation, research methods and use of findings, and research skills as they relate to social work will be emphasized.

Department Restrictions: Must be enrolled in one of the following Departments: CPHSW: Social Work.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Social Work.

Repeatability: This course may not be repeated for additional credits.

SSWG 5005. Social Welfare Policies and Services I. 3 Credit Hours.
This is an introduction to American social welfare policies and social service programs in their historical, political, economic, and social context. Methods of social problem analysis and the social work profession as a social institution are covered.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SSWG 5006. Social Welfare Policies and Services II. 3 Credit Hours.
This course builds on SA 5005 and covers methods of social policy analysis and advocacy in the public policy arena, including skills in argumentation and lobbying.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
SSWG 5005|Minimum Grade of C-|May not be taken concurrently.

SSWG 5007. Social Justice: Foundation for Transformative Social Work. 3 Credit Hours.
Using the School of Social Work's mission of "societal transformation" as a springboard, this course explores a critical aspect of being a social worker: becoming an agent of social change. Attention is paid to core social work ethics and values, understanding how multiculturalism shapes social work, and facilitating the empowerment of self and others. The advancement of anti-oppressive frameworks on micro, mezzo and macro levels of practice is addressed.

Department Restrictions: Must be enrolled in one of the following Departments: CPHSW: Social Work.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Social Work.

Repeatability: This course may not be repeated for additional credits.

SSWG 5107. Practice of Social Service Delivery I. 3 Credit Hours.
The focus is on generalist social work practice, including work with individuals, families, small groups, communities, and organizations. Phases of the helping process, theories of practice, communication skills, social work values, and ethics are studied.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SSWG 5108. Practice of Social Service Delivery II. 3 Credit Hours.
This course builds on SSWG 5107 by focusing on refinement of and competence in generalist social work practice.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
SSWG 5107|Minimum Grade of C-|May not be taken concurrently.
SSWG 5187. Foundation Field Practicum I. 3 Credit Hours.
For the foundation-year field practicum in the fall, the student works within a generalist social work framework to develop basic competencies in key knowledge, skill, and affect arenas. This generalist framework includes a broad range of knowledge and skills; theories and models; practice at the micro, mezzo, and macro levels; performance in numerous social work roles; and understanding the various fields of practice.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
SSWG 5107|Minimum Grade of C-|May be taken concurrently.

SSWG 5188. Foundation Field Practicum II. 3 Credit Hours.
This course continues SSWG 5187 as the foundation-year field practicum taken in the spring semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
SSWG 5187|Minimum Grade of P|May not be taken concurrently.

SSWG 5302. Critical Thinking for Societal Transformation. 1.5 Credit Hour.
This course focuses on the development of critical thinking skills essential for social work practice focused on societal transformation. In contrast to undergraduate education in social work (that emphasizes descriptive writing, memory recall, and basic interpretation of data and conclusions), this course stresses critical analysis. This course prioritizes the following: weighing and considering the meaning and significance of claims; creative and innovative thinking; problem solving; logical reasoning; and evaluating and synthesizing research and theory. This course is essential to ensure that students, capable in generalist social work practice, will be primed to enter a graduate curriculum that emphasizes social justice and, as such, requires innovative thinking and skill acquisition in a concentrated social work method as well as in a specialized area of study.

Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Social Work.

Repeatability: This course may not be repeated for additional credits.

SSWG 5309. Societal Responses to Aging. 3 Credit Hours.
This course explores public and private resources, the need for social and political action, and the network of services required to meet the needs of individuals and their families. It presents policies and practice in income maintenance, health, housing, safety, and social status. Public-private sponsorship, cost, accountability, benefit levels, and administration are discussed. Student social action projects are completed and expanded.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
SSWG 5005|Minimum Grade of C-|May not be taken concurrently.

SSWG 8000. Special Topics in Social Work. 1 to 3 Credit Hour.
Topics vary.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SSWG 8010. Special Topics in Social Work. 1 to 3 Credit Hour.
Topics vary.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
SSWG 8101. Clinical Practice with Individuals, Families, and Groups I. 3 Credit Hours.
This advanced practice course for students in the Clinical concentration is the first course in a year-long sequence of two courses that comprise the clinical concentration practice curriculum. Students learn guidelines for evidence-based practice and develop a multicultural perspective of clinical social work practice with individuals, families, and groups. The course provides more depth and breadth in the evidence base for selection of effective theoretical frameworks that support collaborative interventions with vulnerable and diverse populations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(SSWG 5001|Minimum Grade of C-|May not be taken concurrently
AND SSWG 5002|Minimum Grade of C-|May not be taken concurrently
AND SSWG 5003|Minimum Grade of C-|May not be taken concurrently
AND SSWG 5005|Minimum Grade of C-|May not be taken concurrently
AND SSWG 5006|Minimum Grade of C-|May not be taken concurrently
AND SSWG 5107|Minimum Grade of C-|May not be taken concurrently
AND SSWG 5108|Minimum Grade of C-|May not be taken concurrently
AND SSWG 5187|Minimum Grade of P|May not be taken concurrently
AND SSWG 5188|Minimum Grade of P|May not be taken concurrently)
OR SSWG 5301|Minimum Grade of C-|May not be taken concurrently.

SSWG 8102. Clinical Practice with Individuals, Families, and Groups II. 3 Credit Hours.
This course continues to develop advanced practice skills and knowledge with individuals, families, and groups as undertaken in SSWG 8101. Students further develop self-awareness, use of self, and recognition of feelings evoked in relation to the helping process.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
SSWG 8101|Minimum Grade of C-|May not be taken concurrently.

SSWG 8104. Management and Planning Practice II. 3 Credit Hours.
This course builds on SSWG 8103.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
SSWG 8103|Minimum Grade of C-|May not be taken concurrently.

SSWG 8105. Practice in Communities and Policy Arenas I: Assessment and Planning. 3 Credit Hours.
This advanced practice course for students in the Communities and Policy Arenas concentration focuses on practice in the public sector and provides students with the advanced skills necessary to conduct assessments and analyses that they will use for planning, implantation, and evaluation in organizations, communities, and policy arenas.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(SSWG 5001|Minimum Grade of C-|May not be taken concurrently
AND SSWG 5002|Minimum Grade of C-|May not be taken concurrently
AND SSWG 5003|Minimum Grade of C-|May not be taken concurrently
AND SSWG 5005|Minimum Grade of C-|May not be taken concurrently
AND SSWG 5006|Minimum Grade of C-|May not be taken concurrently
AND SSWG 5107|Minimum Grade of C-|May not be taken concurrently
AND SSWG 5108|Minimum Grade of C-|May not be taken concurrently
AND SSWG 5187|Minimum Grade of P|May not be taken concurrently
AND SSWG 5188|Minimum Grade of P|May not be taken concurrently)
OR SSWG 5301|Minimum Grade of C-|May not be taken concurrently.
SSWG 8106. Practice in Communities and Policy Arenas II: Intervention in Communities/Policy. 3 Credit Hours.
This second part of a two-semester course provides students with the advanced skills necessary to understand and differentially apply models and methods of community organizing, community development, and change. Students learn to conduct assessments and analyses used for planning, implementation, and evaluation in communities and policy arenas. The explicit focus of this course is practice in the public sector. Students learn concepts and strategic approaches related to practicing in these settings, including the concepts of economic, political, and cultural rights; social justice; social transformation; power; empowerment; participatory democracy; and the strengths approach to practice.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
Pre-requisites:
SSWG 8105|Minimum Grade of C-|May not be taken concurrently.

SSWG 8107. Macro Practice in Organizational, Community and Policy Arenas. 3 Credit Hours.
This course prepares students in the Macro Concentration for advanced work in human service and social change organizations, geographic and identity-based communities, and policy arenas. Students will acquire knowledge and skills to be change agents within organizations and contribute to creating the requisite social, political, and economic conditions to help communities and constituencies meet their needs and achieve their full potential. The course will cover nature and characteristics of public, private and nonprofit organizations, community dynamics, policy practices and processes, organizing, planning, collaborations, development and sustainability, inclusivity and diversity, use of research to inform practice, ethics and professional development. Knowledge and skill competencies, as identified by the social work profession, inform the design of the course. Note: The course is for MSW students who have selected the Macro Concentration.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Co-requisites: SSWG 8207.
Repeatability: This course may not be repeated for additional credits.
Pre-requisites:
(SSWG 5108|Minimum Grade of C|May not be taken concurrently
AND SSWG 5188|Minimum Grade of P|May not be taken concurrently)
OR SSWG 5301|Minimum Grade of C|May not be taken concurrently.

SSWG 8108. Thinking Economically. 1 Credit Hour.
This is a 1-credit course elective as part of the MSW Macro Practice concentration. We live in a globalizing, complex and interconnected context. No one is unaffected by local, national or global economies. The aim of studying macroeconomics is to understand what makes our economy grow and what makes it contract. Economists generally agree “a growing economy provides opportunities for better lives, while a contracting economy can be disastrous for most everyone.” This course draws on macroeconomics to analyze proper policy making so that we can develop and nurture the best economy possible that facilitates social justice and equality amongst general and vulnerable populations. The overall goal of this course is for students to apply basic economic tools to the interaction among the many stakeholders in the social welfare, health care, and public health systems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
Pre-requisites:
SSWG 8107|Minimum Grade of C-|May not be taken concurrently.

SSWG 8109. Social Innovation and Entrepreneurship. 1 Credit Hour.
Social Innovation has been a defining characteristic of the social work profession from its earliest days. Mary Richmond’s early casework assessment tools, community organizing and economic development efforts, social entrepreneurship and philanthropic initiatives as well as anti-racism/anti-oppression/anti-violence interventions are just a few of the change-oriented contributions made by social workers. This five-week, one-credit course is intended to further encourage students to see themselves as innovators who can make their vision for positive social transformation a reality. The course offers students a substantive grounding in social entrepreneurship (SE) and social innovation. It presents SE’s history, context, diversity of applications, as well as the increasing regard for SE as a tool to transform the current corporate economy to an ecological and equitable one. The course provides a space for students to reflect and raise questions about how they might like to use their skills to make a difference in the world through social entrepreneurship.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
Pre-requisites:
SSWG 8107|Minimum Grade of C-|May not be taken concurrently.
SSWG 8111. Legislative Advocacy. 1 Credit Hour.
Building on foundational knowledge of policy issues, and SSWG 8107 (Macro Practice), this one-credit course provides students with the advanced skills necessary to undertake legislative advocacy. Students will review tactics for legislative advocacy for social justice and human rights. A range of tactics and techniques used in defining issues and assessing policy conditions will be taught. Students will also learn about regulations and how to advocate for regulations that yield the best outcomes for vulnerable groups. Students will develop and implement a legislative advocacy campaign as a policy practice project.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
SSWG 8107|Minimum Grade of C-|May not be taken concurrently.

SSWG 8112. Coalitions and Partnerships. 1 Credit Hour.
In this one-credit course, students will become familiar with key strategies for building partnerships and coalitions, by building upon community issues already identified in Macro Practice and foundations human behavior course. Students will explore strategies that mobilize and leverage community support services and incorporate diverse community perspectives. Topics include collaborative leadership, coalition development, developing a constituency/partnership, team building, and advocacy.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
SSWG 8107|Minimum Grade of C-|May not be taken concurrently.

SSWG 8113. Resource and Grant Development for Human Services. 1 Credit Hour.
In today’s society, financial resources for human services are severely limited and public demand for greater accountability on the part of agencies is growing. Administrators, managers and supervisors of human services and non-profit agencies are seeking to become more knowledgeable and skillful in resource development. This 1-credit course is designed to respond to that need by preparing students to use resource acquisition as a key tool for accomplishing the objectives of their future organizations of employment. This course focuses on resource acquisition (fund raising, campaigns, use of grants, and entrepreneurial options).

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
SSWG 8107|Minimum Grade of C-|May not be taken concurrently.

SSWG 8114. Supervision, Staff Management, and Staff Development in Human Service Organizations. 1 Credit Hour.
In this 1-credit course, students will examine roles and the range of issues that encompass supervision in organizational contexts, including management and development of personnel. Students will gain practical information and tools to assist them as they function as social work supervisors, managers, administrators, and executives in human service organizations. Students will examine social work supervision from historical, theoretical and applied perspectives, with particular emphasis on challenges, ethical issues, and solution-focused techniques in administrative, educational and supportive supervision.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
SSWG 8107|Minimum Grade of C-|May not be taken concurrently.
SSWG 8115. Leadership in Human Service and Social Change Organizations. 1 Credit Hour.
This 1-credit course will increase understanding of leadership at the personal, interpersonal, team, and organizational levels, and will prepare students for assuming leadership roles in human service and social change delivery organizations. It is critical for students to have the capacity to lead from wherever they sit in the organization, as practitioners, coordinators, managers, supervisors, or executives, and that they develop an effective style of leadership and acquire the competence, skills and knowledge necessary to assist in leading human service and social change organizations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
SSWG 8107|Minimum Grade of C-|May not be taken concurrently.

SSWG 8116. Grassroots Mobilization: In the US and Internationally. 1 Credit Hour.
This one-credit course on grassroots mobilization will build on the content from SSWG 8107 (Macro Practice). It will cover the theoretical and skill-based underpinnings of organizing with the grassroots to create increased social and economic justice. Social, economic and political reforms around the world often begin when those who are most vulnerable organize to enact positive change for themselves and others in their communities. The empowerment of these groups can lead to sweeping social, political and economic changes. As social workers, we must use our skills to create and become a part of these grassroots movements in order to fulfill the mission and the ethics of our profession.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
SSWG 8107|Minimum Grade of C-|May not be taken concurrently.

SSWG 8187. Advanced Field Practicum I. 3 Credit Hours.
This advanced year practicum for service delivery builds competencies in the Clinical concentration, Management and Planning concentration, or Communities and Policy Arenas concentration, and by selected specialization. This is the first semester (fall) of a two-semester internship in which the student gains greater depth in knowledge and skills for her or his choice of concentration, and increased familiarity with a chosen field of practice (specialization).

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
SSWG 5188|Minimum Grade of P|May not be taken concurrently
OR SSWG 5301|Minimum Grade of C-|May not be taken concurrently.

SSWG 8188. Advanced Field Practicum II. 3 Credit Hours.
This advanced year practicum for service delivery builds on SSWG 8187. It is taken in the spring.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
SSWG 8187|Minimum Grade of C-|May not be taken concurrently
OR SSWG 8187|Minimum Grade of P|May not be taken concurrently.

SSWG 8205. Evaluation of Clinical Practice. 3 Credit Hours.
This is a required advanced-level research course for students in the Clinical concentration. It provides students with tools of practice evaluation and learning experiences of formal evaluation of student’s individual work with individuals, families, and groups. It also reviews methods of evaluation of direct practice at both individual and program levels.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
SSWG 5003|Minimum Grade of C-|May not be taken concurrently
OR SSWG 5301|Minimum Grade of C-|May not be taken concurrently.
SSWG 8207. Social Work Research: Communities and Policy Arenas and Management/Planning. 3 Credit Hours.
This is a required advanced-level research course for students in the Management and Planning and Communities and Policy Arenas concentrations. It focuses on the history and philosophies, conceptual approaches, techniques and methods, and issues in practice and utilization of research applied to communities, organizations, social programs, and policies. It provides students with the skills to carry out research designed to support human rights through community and/or policy assessment, planning, and intervention.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
SSWG 5003|Minimum Grade of C-|May not be taken concurrently
OR SSWG 5301|Minimum Grade of C-|May not be taken concurrently.

SSWG 8303. Dynamics of Health, Health Care, and Health Systems. 3 Credit Hours.
One of three required courses for students pursuing a specialization in Health/Mental Health Policy. It focuses on Human Behavior in the Social Environment (HBSE) content relevant to health and mental health social work practice at all systems levels. Students study the effects of bio-psycho-social, familial, organizational, economic, and cultural variables on the definition, incidence, prevalence, experience, treatment, and prevention of chronic and acute conditions, particularly those prevalent among oppressed populations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(SSWG 5001|Minimum Grade of C-|May not be taken concurrently
AND SSWG 5002|Minimum Grade of C-|May not be taken concurrently)
OR SSWG 5301|Minimum Grade of C-|May not be taken concurrently.

SSWG 8307. Health/Mental Health Policy. 3 Credit Hours.
This advanced-level policy course is for students in the Health/Mental Health Policy specialization. This course examines historical and current issues in health/mental health policy, including the U.S. health care system (e.g., managed care, Medicare, and Medicaid) as well as international comparisons. Insurance, access to care, and differential health/mental health outcomes are studied.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(SSWG 5005|Minimum Grade of C-|May not be taken concurrently
AND SSWG 5006|Minimum Grade of C-|May not be taken concurrently)
OR SSWG 5301|Minimum Grade of C-|May not be taken concurrently.

SSWG 8403. Children and Families in the Social Environment. 3 Credit Hours.
This is an advanced-level human behavior and social environment course for students in the Children and Families specialization. It is designed to develop students' understanding of children within the context of families and other socializing institutions. Children and families are viewed from an ecological and systems perspective, i.e., in the context of families, communities, schools, and organizations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(SSWG 5001|Minimum Grade of C-|May not be taken concurrently
AND SSWG 5002|Minimum Grade of C-|May not be taken concurrently)
OR SSWG 5301|Minimum Grade of C-|May not be taken concurrently.
SSWG 8407. Policy on Families and Children. 3 Credit Hours.
This is an advanced-level policy course for students in the Children and Families specialization. It offers an overview of policies that impact families, children, and youth in the United States. These three policy areas, although distinct, are integrally related. The challenge of creating effective social policies for families, children, and youth is the focus of this course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(SSWG 5005|Minimum Grade of C-|May not be taken concurrently
AND SSWG 5006|Minimum Grade of C-|May not be taken concurrently)
OR SSWG 5301|Minimum Grade of C-|May not be taken concurrently.

SSWG 8503. Military Culture: The Service Member, Veteran and Family in the Social Environment. 3 Credit Hours.
This course intends to provide students with a learning experience that provides a foundation of theory, skills, and knowledge necessary in the practice of military social work. Social work practice with the military, not unlike other facets of social work practice, must keep in mind the unique culture of the individual within the context of their unique environment and history. Learning modules include military culture, the military family, military children, female warriors and veterans, and clinical assessment and treatment.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Social Work.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
SSWG 5002|Minimum Grade of C|May not be taken concurrently
OR SSWG 5301|Minimum Grade of B-|May not be taken concurrently.
SSWG 8504. Integrative Seminar. 3 Credit Hours.
This course provides an opportunity for students from all concentrations and specializations, individually and in teams, to identify and critically examine major ethical/legal as well as practical concerns facing the profession. The course is designed to enhance self-awareness and self-confidence through the integration of knowledge, skills, and values learned throughout the M.S.W. program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(SSWG 5001|Minimum Grade of C-|May not be taken concurrently
OR SSWG 5001|Minimum Grade of P|May not be taken concurrently
AND (SSWG 5003|Minimum Grade of C-|May not be taken concurrently
OR SSWG 5003|Minimum Grade of P|May not be taken concurrently
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OR SSWG 5005|Minimum Grade of P|May not be taken concurrently
AND (SSWG 5006|Minimum Grade of C-|May not be taken concurrently
OR SSWG 5006|Minimum Grade of P|May not be taken concurrently
AND (SSWG 5007|Minimum Grade of C-|May not be taken concurrently
OR SSWG 5007|Minimum Grade of P|May not be taken concurrently
AND (SSWG 5008|Minimum Grade of C-|May not be taken concurrently
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AND (SSWG 5107|Minimum Grade of C-|May not be taken concurrently
OR SSWG 5107|Minimum Grade of P|May not be taken concurrently
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OR SSWG 8107|Minimum Grade of P|May not be taken concurrently
AND (SSWG 8187|Minimum Grade of C-|May not be taken concurrently
OR SSWG 8187|Minimum Grade of P|May not be taken concurrently

SSWG 8507. Military Health Care, Policy and Community Response. 3 Credit Hours.
The purpose of the course is to introduce students to the arena of social policy analysis, policy practice, and advocacy as related to social work practice with the military.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Social Work.
Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
SSWG 5006|Minimum Grade of C|May not be taken concurrently
OR SSWG 5301|Minimum Grade of B-|May not be taken concurrently.
SSWG 8603. Advanced Human Behavior and the Social Environment - Gender and Sexuality through the Lifespan. 3 Credit Hours.
Sexual wellness is a key component of human wellness. The World Health Organization states "sexual health is influenced by a complex web of biological and social factors. It requires a positive, responsible approach to sexuality and sexual relationships as well as pleasurable, safe sexual experiences that are free from coercion, discrimination, or violence." Taking a human behavior, social environment, and biopsychosocial approach to gender and sexuality, this course is designed to increase the student's comfort and sensitivity to the diversity of sexual issues people face and the normative spectrum of behavior and identity that exists. The course will explore the diversity of human sexuality; paying specific attention to the roles that gender, race, class, sexual orientation, religion/spirituality, and ethnicity have on sexuality. Sexual violence will be examined on both macro and micro levels with emphasis on human rights and social justice aspects of vulnerable populations. Sexual concerns of clients will be examined in a variety of practice settings such as case management, counseling, health care, schools, and child welfare. A variety of sexuality related topics will be covered including sex through the life span, diagnostic interviewing, disability and illness, reproductive justice, sexual wellness, sexuality education, and sexual diversity. All materials will be taught using the framework of NASW's Code of Ethics for social workers dealing with sexually related matters.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(SSWG 5001|Minimum Grade of C|May not be taken concurrently)
AND (SSWG 5002|Minimum Grade of C|May not be taken concurrently)

SSWG 8607. Advanced Policy - Gender and Sexuality. 3 Credit Hours.
This advanced level course focuses on the arena of social policy analysis, policy practice, and advocacy as related to gender and sexuality. Specific focus will be on evaluating how class, race, religion, and immigration status interact with gender and sexuality to impact policy, services, and outcomes for client populations. Policies at the national and international level, the state and local level, and at the agency and organization level will be examined. Students will identify how these policies can affect client populations and macro, mezzo, and micro practice. A major goal of the course is to provide students with knowledge and skills to influence the development, implementation, and evaluation of policies that relate to gender and sexuality.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(SSWG 5005|Minimum Grade of C|May not be taken concurrently)
AND (SSWG 5006|Minimum Grade of C|May not be taken concurrently)

SSWG 8801. Financial Management. 3 Credit Hours.
In a global society for human service management, financial resources are competitive and limited. Moreover, the funders (government, private corporations, and the public) demand greater accountability on the part of agencies. Administrators of social work organizations need to become knowledgeable and skillful as fiscal and program managers. This course is designed to prepare students to use resource acquisition as well as risk and cost management techniques to become effective administrators. This course is designed to complement and support the administration courses by focusing on the financial management aspects of integrated program planning and budgeting. Topics covered include resource expenditure (budget development, fiscal management, risk management, cost analysis and control, financial and IRS reporting) and resource acquisition (fund raising, capital campaigns, use of grants, performance-based and other services contracting, diversification of income sources, entrepreneurial options). Students develop ethical decision-making practices with regard to resource allocation that enable them to develop a professional sense of accountability.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SSWG 8803. Emotional Disorders in Children and Adolescents. 3 Credit Hours.
This course studies emotional, social, behavioral, and developmental disorders that are prevalent during childhood. Risk factors, developmental pathways, co-occurring conditions, and effective treatment approaches are studied.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
SSWG 8804. Social Work with the Homeless. 3 Credit Hours.
This course provides a framework for the analysis of social policies and programs related to the social problems of homelessness in the United States. Although the focus of the course is on contemporary issues of homelessness, the approach includes an historical perspective in order to explore the enduring legacy of early interventions and approaches to the relief and social control of marginalized populations. The implications of differing viewpoints and alternative problem definitions for policy and service delivery are considered. The course explores shifts in housing policies. Additionally, employment programs are discussed in some detail to demonstrate their impact on the increasing numbers of Americans who are homeless.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SSWG 8807. HIV/AIDS and Social Work. 3 Credit Hours.
This course provides an overview of knowledge, skills, values, and policy issues related to prevention and service delivery with HIV/AIDS infected and affected persons.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SSWG 8809. Child Welfare Policy. 3 Credit Hours.
This course provides an overview of social welfare policies affecting children with particular attention to the problems of child abuse and neglect.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SSWG 8811. Alcohol and Substance Abuse. 3 Credit Hours.
This course provides students with current information about alcohol and other substance abuse. Using ecosystems and family systems frameworks, information is presented regarding the bio-psycho-social impact of alcohol and other substance abuse on individual and family functioning. Particular attention is given to treatment options and resources for change.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SSWG 8814. Loss and Grief. 3 Credit Hours.
This course examines the dynamics of loss and mourning, societal attitudes about death, and cultural variations in dealing with loss.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SSWG 8815. Law and the Practice of Human Services. 3 Credit Hours.
This course considers various legal issues as they pertain to the practice of social work.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SSWG 8816. Practice Consultation. 3 Credit Hours.
This course is offered to students planning a career in clinical social work. It builds on the foundation of Clinical Practice I and II, going further and deeper into the skills of clinical practice. It is designed as a seminar with components of peer and clinical supervision similar to LSWs seeking supervision hours toward LCSW licensure. It covers a wide variety of practice skills addressing client needs as presented in class. As such, the majority of class content will be case driven in accord with case presentations. Students should have a strong theoretical foundation and clinical experience working with clients in a mental health setting.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SSWG 8818. Supervision, Staff Development, and Training. 3 Credit Hours.
This course examines sources of power in organizational hierarchies, alternative formats for organizational development, and supervisory and staff development practices.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
SSWG 8823. Psychodynamics of Race, Class and Culture. 3 Credit Hours.
This course focuses on psychodynamic dimensions unique to particular cultural and socioeconomic groups and their relationship to social work practice.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SSWG 8824. Assessment and the DSM. 3 Credit Hours.
The focus is on using the DSM-IV as an assessment tool and the implications for social work practice. A bio-psycho-social approach to understanding human behavior is taken.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SSWG 8826. Aging HBSE. 3 Credit Hours.
This course provides an overview of the major biological, psychological, and sociological theories used to understand the aging process, in conjunction with the social, emotional, and physical environment. The interrelationship between the aging person, his or her family, and society is explored. Particular attention is given to at-risk and diverse populations such as women, minorities, and the oldest old. This course further examines the pathologies and functional disorders which occur in some populations, in addition to the normative process of aging in today's society.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SSWG 8827. Aging Policy. 3 Credit Hours.
This is one of three courses in the Aging Specialization. This course focuses on the major social policies affecting the lives of aging Americans. It provides students with the opportunity to understand and analyze the principal social programs, which have been developed in response to the major issues confronted by America's elderly. Students will explore key policy issues in the areas of work and retirement; income maintenance; housing; health care (including long term care, both institutional and home based); delivery of preventive and acute care in the community; the impact of managed care on the elderly; prescription reimbursement programs; abuse and neglect of the elderly; hospice care; euthanasia; Medicare and Medicaid; nutritional support; mental health issues and other related health care topics; and the needs of selected populations during aging (e.g., chronically mentally ill, developmentally disabled and others experiencing pre-existing chronic health care concerns). All of these issues will be pursued with a focus upon social justice, diversity, and consumer involvement in policy development.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SSWG 8831. Social Transformation. 3 Credit Hours.
This course is an exploration of social transformation theories and practices in the humanities, sciences, social sciences, and other uncategorized ventures for a different world. Topics selected by students range from art therapy to nonviolent civil disobedience. The course emphasizes participatory learning and practical application in social work settings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SSWG 9182. Independent Study. 3 Credit Hours.
This is an independent course of study in an area of special interest. A faculty facilitator and the student work together to identify the content and design learning opportunities.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SSWG 9282. Independent Study. 1 to 4 Credit Hour.
This is an independent course of study in an area of special interest. A faculty facilitator and the student work together to identify the content and design learning opportunities.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
SSWG 9817. Clinical Military Practice and the Invisible Wounds of War. 3 Credit Hours.

Social work practice with the military, not unlike other facets of social work practice, must keep in mind the unique culture of the individual within the context of their environment and history. This course intends to provide students with the knowledge and skills that inform the practice of clinical social work with military service members. Topics include clinical work with military families, women warriors, couples, children, service members, and veterans. Facets of clinical work discussed include various contemporary issues facing the modern military service member including the invisible wounds of war. Learning modules include the signature (invisible) wounds of contemporary conflicts, military sexual trauma, issues of sexuality, female warriors, the military family, military children, and the new warrior.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(SSWG 8503|Minimum Grade of C|May not be taken concurrently)
AND (SSWG 8507|Minimum Grade of C|May not be taken concurrently)

Sociology (SOC)

Courses

SOC 5211. Statistical Methods in Sociology. 3 Credit Hours.

This course has four objectives, to provide you with understandings of (1) basic methods of descriptive statistics, like means, medians, quartile spreads, standard deviations, and skewness, (2) random variation and how different samples selected from the same population may provide different results, (3) the basic idea of statistical inference, i.e., how we make judgments about what is the population that provided the sample result that we have observed, and (4) how to evaluate possible associations between two variables.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 5311. Socialization. 3 Credit Hours.

Socialization is the process by which individuals become members of society. We look at this process as ongoing, starting in infancy and continuing through adulthood. This implies constant re-socialization and discussion of the ways early childhood learning influences adult lives. This research-intensive course is organized around the important socialization agents of family, friends, school, work, and the differences in socialization and therefore life histories by race, gender, and social class. Students undertake individual research on the socialization of children as they begin grade school. This involves developing a research question, developing questionnaires, interviewing a child and his/her caregivers, and analyzing the findings. The course includes instruction on each phase of the research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 5321. Sexuality and Gender. 3 Credit Hours.

This course examines the ways men and women develop sexual identities as a result of their membership in society. It looks at how this has changed over the course of Western history and at the differences in sexual identity from culture to culture. We focus on the differences in sexual identities of men and women, and the advantages this brings to men. We also examine the overwhelming heterosexual imperative in our society. Students research these and other topics such as differences in sexual expression by race, and the influence of the media on how we understand the meaning and expression of sex. The research requirement for the course involves an analysis of sexual scripts, the production and reproduction of these scripts, and the impact of the messages on different types of viewers. Instruction is provided on film analysis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 5331. Urban Sociology. 3 Credit Hours.

This class is a survey of aspects of the field of urban sociology. Urban sociology is an enterprise that looks at cities -- the intersection of people and space with political and economic structures superimposed on both. Space has been the primary concept that defines much of urban sociology because of the vital role of space and location in defining urban life and opportunities. Topics will include suburbanization, downtown development, racial and ethnic segregation, poverty, immigration, gender, globalization, culture and virtual communities.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
SOC 5341. Political Sociology. 3 Credit Hours.
This course analyzes the social basis of political institutions and political action, stressing the importance of both in the life of communities and individuals. Our emphasis is on the influence of social classes, professional and occupational groups, political parties, social movement organizations, and other notable interest groups have on the political system. We discuss the formation and organization of political activity and its varied outcomes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 5351. Sociology of the Environment. 3 Credit Hours.
To begin, we focus on the interaction among four components: population size, social organization, environmental conditions, and available technology. We consider issues such as the relationships among the technology of farming, the volume of agricultural production, and the availability of labor for economic development. We learn about "input-output" models focusing on the intensity of resource use and problems of waste management. We take this basic model and apply it to the problem of climate change or "global warming." How and why is the climate changing, and what are the social factors that contribute to it? Then, we concentrate on issues of social organization. What kinds of political arrangements do we see for the management of waste? How does the transfer of natural resources from resource-rich but economically underdeveloped countries to the United States and other industrial societies affect the social, economic, and political arrangements of both groups of countries? Finally, we address whether the society can be organized in such a way as to reduce the pressure on the environment and remaining natural resources.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 5361. Social Movements & Social Conflict. 3 Credit Hours.
This course examines social movements with an emphasis on the Post World War II era, leading up to and including our contemporary "Information Age." It briefly introduces the history of social movements and revolutions and then explores in greater depth how sociologists frame, analyze, study, and explain the emergence, maintenance, outcomes, and social control of social movements. Finally, the course concentrates in the contemporary period and examines how Globalization, mass media, and Information and Communication Technologies (IT) have laid the basis for new forms of connectivity, new kinds of sharing, cooperation, and creative forms of social networking and activism. Will the "placeless" world of cyberspace and new media eliminate or dramatically constrain the possibility of revolution? How will the enhanced proliferation and dissemination of information and means of communication change ways people associate and assemble? Will it diminish mass mobilizations of political power and popular/radical consciousness or will a "network society" enable people to act in ways that collective action was not possible before?

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 5371. Health and Disease in American Society. 3 Credit Hours.
The social context of the construction of health and disease in the United States, focusing on reproduction and death, the epidemic of AIDS, and issues emerging from the aging of the American population.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 5411. Class in Modern Society. 3 Credit Hours.
Social class is a fundamental dimension of inequality in modern society. This course examines the sources and consequences of social class, with particular focus on the intersection of class with other forms of inequality in the context of the United States.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 5510. Selected Topics in Sociology. 3 Credit Hours.
The topics will vary and cover areas not covered by the current roster of classes. Please consult with the instructor for details.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SOC 5520. Selected Topics of Sociology. 3 Credit Hours.
The topics will vary and cover areas not covered by the current roster of classes. Please consult with the instructor for details.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
SOC 5530. Selected Topics in Sociology. 3 Credit Hours.
The topics will vary and cover areas not covered by the current roster of classes. Please consult with the instructor for details.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SOC 8011. Logic of Inquiry. 3 Credit Hours.
This course is an introduction to the logic and methods of social research. We will examine the issues that arise in doing and evaluating both quantitative and qualitative research by reading the sociological literature. We will spend some time on the simple tools, e.g. tables and graphs, needed to summarize research results. However the focus will be on larger issues, namely, how researchers draw conclusions from empirical data, and how we can assess the validity of the conclusions they reach.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 8111. Classical Social Theory. 3 Credit Hours.
This course reviews the main lines of sociological and other “social” thought of the modern times (roughly from the 1660s to our time), paying attention to four basic directions in theorizing: (1) The liberal and “classical economic” theories of John Locke and Adam Smith and the rise of neo-classical (neo-liberal) thinking [rational choice theory and its variations]. (2) The liberal-idealist theory of German philosophy (since Kant) and the “interpretative” and “subjectivist” paradigm of Wax Weber [and various neo- and nearly-Weberians. (3) The “social-structural” (“dialectical” in the old language) theory of Karl Marx and its many offshoots [neo-Marxisms, half-Marxisms (such as “Critical Theory,” etc.), post-Marxisms]. (4) The “collectivist” (sociologist) theory of Emile Durkheim and its contemporary versions [“structuralist” (Blau), “culturalist” and “functionalist” (Parsons), “systems” (Luhmann), or “neo-functionalist” (Faia, Alexander)].

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 8211. Inferential and Multivariate Statistics. 4 Credit Hours.
This course starts with a review of bivariate statistics and moves quickly into multivariate statistics focusing on multiple regression. The emphasis of this course is on conceptual understanding, interpretation, and application. All major computations are performed using the SPSS computing program. Students are also expected to learn the basic skills for working with large social science data sets, such as the GSS. This course serves as a prerequisite for SOC 9211, which involves the application of the statistical procedures taught in this class to the study of real social issues through secondary data analysis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 8221. Qualitative Methods. 3 Credit Hours.
This course introduces the assumptions, theories and practices of qualitative research methods. The course is designed to provide opportunities for developing specific qualitative research skills while gaining familiarity with theories, issues, and problems in qualitative research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 8231. Demography & Immigration. 3 Credit Hours.
This course surveys the social demographic research on immigration, broadly conceived, and the numerous social, economic, and political processes with which it intersects. The course has two main goals: (1) to introduce students to the sources of data most commonly used by social demographers to study immigration and to social demographic methods; and (2) to critically review the leading social demographic research literature on the dynamics of immigration and social change. The data and research covered during the semester will focus primarily on the United States, but a non-negligible share of the course will be devoted to cross-national comparisons, the global migration system, and transnationalism and development.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
SOC 8241. The Ethics of Social Research. 3 Credit Hours.
This course examines many of the ethical dimensions of conducting social research. Social researchers are accountable to: a) their own consciences and their own ethics, b) the actual people they are studying, c) international and federal laws, d) institutional policies and practices, e) their disciplines and sub-fields, f) their peers and colleagues, and g) any other communities to which they belong or in which they participate. This course examines a series of readings organized around key themes in research ethics. In addition, students are asked to investigate particular cases of alleged research misconduct and to take a position on the controversy. By the end of this class, students should: 1) Know the key laws and statues governing social research; 2) Be familiar with the ethical resources available to social researchers; 3) Be able to evaluate the ethics of particular research cases; and 4) Be able to weigh ethical dilemmas in their own research practice and make responsible decisions about those dilemmas.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 8311. Sociology of Education. 3 Credit Hours.
The main focus is on the ways educational systems both maintain and challenge social inequality. Students discuss the ways education differentially allocates resources based on race, class, and gender. The class explores this issue in both "classical readings" in the Sociology of Education, and also in recent books by those working in the field. Books chosen for the course are intended to begin discussion on contemporary debates. The class pays special attention to whether the policies discussed by them ameliorate or exacerbate existing inequalities by race, class, and/or gender. This course has three main objectives: (1) prepare students for the preliminary examination in the Sociology of Education through discussions of main theories, ideas, and classical works in the field; (2) promote critical debate about contemporary issues in education by reading and discussing "hot topics" in education like debates over curricula, "marketing" universities, racial inequality in school achievement, and school choice; and (3) advance students' own research projects through frequent discussions and evaluations of students' work by the instructor and their peers.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 8321. Political Sociology. 3 Credit Hours.
This is a graduate seminar designed to examine the social conditions of politics and the relationship between state and society. Issues of concern include theories of power and political regimes, historical and comparative political studies, the development and role of the modern state, forms of political organization and participation, democracy, the welfare state and the politics of globalization. A main objective of this course is to develop an understanding of how social actors shape the political system and how political systems, in turn, shape social structures. In addition, the course has a research component designed to provide students with the opportunity to examine in depth a topic their choice with an empirical outlook.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 8331. Race and Ethnicity. 3 Credit Hours.
This course focuses on the nature of racism, discrimination, prejudice, racial conflict, and racial oppression in American society. Special emphasis will be given to the relationship between race, gender, nationality, immigration status and social class.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 8341. Sociology of Kinship. 3 Credit Hours.
This course will survey a range of topics from the field of sociology of kinship: historical changes in kinship as well as global changes in the family over the twentieth century; inequalities in families related to social class, social capital and family life; inequalities related to race and ethnicity; comparative adolescence and transitions to adulthood; sexuality and love in transnational contexts; perspectives on psychic and intimate relations in families; gender and power relations within the family; the state, public policy and the politics of kinship relations and more. We will also examine how the family came to be a centrally contested sphere in contemporary American political debates. Finally, you will have hands-on experience formulating a research proposal that investigates a research question related to this literature as well as assessing and responding to the proposals of your classmates. The purpose of the seminar is to review some of the major debates in this rapidly evolving field and to gain experience in formulating viable research questions about contemporary kinship issues.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
SOC 8351. Complex Organizations. 3 Credit Hours.
This seminar reviews the development of organizational theory, with a special emphasis on recent work in economic sociology and the sociology of corporations. Specific topics include the role of markets and networks, the control and consent of the workforce, business structure, inter-organizational analysis and organizational culture.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 8361. Urban Sociology. 3 Credit Hours.
This course is about the space and urban sociology. The goal of this course is twofold: 1) to review, assess and analyze important theoretical perspectives on space in urban sociology, and 2) to determine the utility of applying these perspectives to contemporary urban issues. Urban problems will be examined largely from the perspective of how space and location are linked to these problems and they will not be investigated in their own right. The underlying theme of this course relates to theoretical propositions around space. This course will also focus on research from the vantage point of how theory can and should be used as a foundation for conceptualizing research problems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 8371. Sociology of Culture. 3 Credit Hours.
The goal of this class is to survey the breadth of work that has been conducted under the sociology of culture, to identify the many ways that culture has been shown to be powerful, to examine competing theories about how culture works, to identify the types of research methods that can be used in cultural analysis, and to pinpoint the ways that each of us can embrace a cultural perspective in our own research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 8381. Social Inequality. 3 Credit Hours.
This course reviews theories and research regarding the dimensions of inequality and the processes which create, increase, and decrease inequality. It also examines the issues of the relationships between the dimensions of inequality and the processes of cumulative advantage and disadvantage. Individuals, groups, areas, and other social contexts are typically organized hierarchically, and the course explores the ways in which these different social levels shape and are shaped by social inequality over the life course. Examples of these processes include social multiplier effects, "winner take all" theories, the "Matthew Effect" in science, and the "Peter Principle."

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 8391. Medical Sociology. 3 Credit Hours.
This course examines the historical changes in the ideas of health and disease and in society's response to illness. An important component of the course will be to examine the influences of social/political environment on morbidity and mortality in the United States and how population sub-groups experience illness in the medical system.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 8401. Sexuality and Gender. 3 Credit Hours.
This is a research intensive course in which we will examine the historical and sociological structures underlying relationships of sexuality and gender. The perspective of the course is that sexuality is a social creation with meaning to be found in culture. Sexuality is learned through socialization and resocialization. This learning takes place within a gendered social system and so sexuality itself is gendered in our culture. We will examine a number of theoretical perspectives and read the major sociological work in the field. The course will be divided into a reading seminar during the first half of each class and research presentations by students in the second half. During the course of the semester each student will each work on a topic of her choosing and will present her progress to class periodically.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 8411. Gender and Body. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
SOC 8421. Urban Health. 3 Credit Hours.
Globally, the majority of humans now live in cities. Yet questions about what makes for healthy cities—and how we can measure and assess the complex relationship between health and place—continue to pose theoretical and methodological challenges for planners, social scientists, and biomedical researchers. Recent scholarship in the sociology of health and illness has focused on how the social determinants of health—sometimes called the non-medical determinants of health—powerfully shape health and mortality outcomes. Poverty, social isolation, political ideologies and economic policies, neighborhood contexts and effects of social networks have all been shown to be influential in determining the health and well-being both of entire groups and the individuals in them, acting as a serious constraint on (or enabler of) basic life chances. This course focuses on the empirical evidence for these health disparities and the theories about how and why they manifest as they do in urban settings. This seminar is designed to appeal to students interested in urban health, population health, the sociology of health and illness, and place and health.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 8431. Globalization and Development. 3 Credit Hours.
This graduate course is designed to critically examine the competing perspectives, historical processes, and key issues and debates in the study of globalization and development. Our emphasis is on the relationships between local and global social, economic, political, and cultural processes. In particular, we will focus on the late 20th century and early 21st century "globalization," known as the "neo-liberal globalization," and how the forces of globalization interact with the development trajectories of nation-states, societies, and communities.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 8510. Special Departmental Seminar. 3 Credit Hours.
The topics will vary and cover areas not covered by the current roster of classes. Please consult with the instructor for details.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SOC 8620. Departmental Seminar. 3 Credit Hours.
The topics will vary and cover areas not covered by the current roster of classes. Please consult with the instructor for details.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SOC 8711. Symposium in Sociology. 1 Credit Hour.
This course introduces sociology graduate students to departmental faculty and their work. Faculty members describe their research, theory development, and/or policy work. This course is required of all entering graduate students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 8721. Symposium in Sociology. 1 Credit Hour.
This course introduces sociology graduate students to departmental faculty and their work. Faculty members describe their research, theory development, and/or policy work. This course is required of all entering graduate students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 8731. Teaching of Sociology. 1 Credit Hour.
The processes and problems related to classroom teaching at the undergraduate level. This course is required of all new teaching assistants.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
SOC 8741. Teaching of Sociology. 2 Credit Hours.
The processes and problems related to classroom teaching at the undergraduate level. This is a practicum workshop required of all students teaching their first course as a teaching assistant. The course includes practice teaching.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

SOC 8751. Introduction to Computing. 1 Credit Hour.
This course introduces students to micro-computer word processing, data base, spreadsheet, and graphing programs. Accessing and using a mainframe computer to generate descriptive statistics.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

SOC 9111. Contemporary Sociological Theory. 3 Credit Hours.
This course surveys a broad range of theoretical perspectives from the 20th and 21st centuries. The course compares these theories in terms of how they contribute to on-going sociological research around a number of social problems.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

SOC 9121. Advanced Sociological Theory. 3 Credit Hours.
This is an advanced course that examines the current status of social theory, familiarizes students with the parameters and process of sociological theorizing, and appraises critically the most significant recent theoretical exemplars and proposals. Knowledge of the classics and a review of contemporary social theories are required for this course; students are expected to do an intensive review of the classical and modern writings before entering the more demanding topics and materials.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

SOC 9131. Theories of Identity. 3 Credit Hours.
A seminar that offers the students the opportunity for specialized study of one of the most debated issues in sociology nowadays: social and cultural identities. The course will deal with the last developments in identity theory, emphasizing the work of Louis Althusser, Michel Foucault, Ernesto Laclau, Chantal Mouffe, Slavoj Zizek, Stuart Hall, Craig Calhoun, R.S. Perinbanayagam, James Holstein, Jaber Gubrium, Judith Butler, Lawrence Grossberg, Charles Taylor and Paul Ricouer, among others.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

SOC 9141. Theories of Globalization. 3 Credit Hours.
This course provides a broad introduction to the major theories, approaches, issues and debates in the studies of globalization. Globalization has redefined not only the way we understand society at the very basic level but also our own sense of place and identity in a world where we are connected to and influenced by events and people in far off places. Substantively, this course will focus on the relationships between local and global social, economic, political, and cultural processes across time and space. Our scope will be global and historical-comparative, and our approach will be sociological and interdisciplinary.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.
SOC 9211. Graduate Data Analysis. 3 Credit Hours.
In this course, you will do original sociological research using secondary data analysis. In this course, in addition to looking for meaningful relationships between variables in the data, we apply quantitative research methods to examine explanations for why relationships between variables may exist. To do this, we explore whether and how a relationship between two variables changes when we add a third (or fourth or fifth...) variable. The research process consists of several steps: (1) construct a research question, (2) formulate one or more theories related to your research question based on a literature review, (3) turn those theories into testable hypotheses, and (4) test those hypotheses using secondary data. Your research will be presented in a final paper organized according to the standards of the discipline and then summarized in an oral presentation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
SOC 8211|Minimum Grade of B-|May not be taken concurrently.

SOC 9221. Theory and Practice of Statistical Sampling. 3 Credit Hours.
This course presents the basic ideas for commonly used statistical sampling strategies. We discuss methods of sampling when the assumptions for simple random sampling are not met. We cover methods of stratification, selecting with probabilities proportional to size, clustering and weighting. In each case we study how to calculate statistical estimates with variances and confidence intervals. The course also focuses on issue of statistical design, and how to create a design which will have the best chance of providing answers relevant to the important research questions of the study.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 9231. Methodology of Social Surveys. 3 Credit Hours.
The objective is to instill an understanding of the survey process. To do this, students must learn to write questions and appreciate the ways that different question-writing strategies affect the types of answers respondents give. We engage in three activities: (1) the actual writing of questions, (2) the discussion of the effects of different question-writing strategies, and (3) the discussion of methods of evaluating errors on surveys. There are two basic "theorems" of survey research. The first is that playing the "respondent's" role creates a burden for the people we interview, and that if we overtax the respondent, the weight of this burden causes the quality of their answers to deteriorate. The second is that respondents and interviewers create relationships, and neither typically wants to spoil the relationship. If the interviewer continues to ask questions, the respondent usually continues to answer the questions, even though these answers have little or no meaning. The good survey researcher develops strategies to detect when this occurs and to adjust her analyses accordingly. One of the major goals of this course is to help in the development of these strategies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 9241. Qualitative Data Analysis. 3 Credit Hours.
The central goal of this course is to have students complete a qualitative research project. It focuses on how to collect data, how to organize data for analysis, and how to use the data to answer a research question and/or develop concepts that might inform future research. Toward this end, the course begins with readings about the qualitative research process. The readings detail the agenda(s), logic, and epistemological foundation of qualitative research.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 9291. Departmental Seminar in Research Methods. 3 Credit Hours.
The topics in research methods will vary and cover areas not covered by the current roster of classes. Please consult with the instructor for details.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
SOC 9311. Immigration and Inequality. 3 Credit Hours.
The causes, consequences, and repercussions of immigration constitute one of the most important topics of the 21st century. This course surveys key current theoretical debates in the study of international migration with an emphasis on related literature dealing with gender, kinship, and ethnicity. Considered are theoretical approaches to international migration; controversies regarding assimilation; the framing of migration through gender and kinship relations, social networks, and social capital; family ideologies and achievement; and the social context of immigration, ethnic niches and enclaves, transnationalism, empirical trends in post-WWII United States immigration and settlement, second-generation immigrant patterns, and immigration policies and politics. The long-term goal is to encourage students to undertake research in the field of migration research. This field is unique in its interdisciplinary and methodologically pluralist nature: stretching from the demography and economics of migration, through political science, sociological and geographical approaches, to the ethnography and oral history of migrants.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 9321. Theories of Race and Racism. 3 Credit Hours.
This course focuses on theories and analyses that seek to explain the social salience of race. The selected readings explore various concepts that surround the study of race, such as racism, white supremacy, oppression and subordination, nationalism, sexism and inequality. Many scholars believe that modernity, capitalism, and race are coterminous. We will explore in this seminar those connections. Some of the questions that we will explore are:

- How did the racial dimension of world society come to be, and how did it gain such weight in the organization of social/economic/political processes?
- How are the racial dimensions of society constituted and changed? How are they related to other central aspects of society, such as class, gender, ethnicity, age, nationality, citizenship, etc.? What is the relation between race, racism and whiteness? Is it a colorblind society possible? What is a "race narrative" and how it affects people's identities and social structures?

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 9382. Independent Study Progm. 1 to 6 Credit Hour.
With the consent of the graduate chairperson and the instructor concerned, students may select an intensive program of study and/or research within a specific area of sociology.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SOC 9385. Internship in Social Research. 1 to 6 Credit Hour.
The internship in social research provides a learning experience that unites the core concepts of sociology with professional organizational settings and the community as a whole, while also guiding students as they transition into their own professional lives.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SOC 9386. Internship in Social Research - Part II. 1 to 6 Credit Hour.
The internship in social research provides a learning experience that unites the core concepts of sociology with professional organizational settings and the community as a whole, while also guiding students as they transition into their own professional lives.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
SOC 9385|Minimum Grade of B-|May not be taken concurrently.

SOC 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
This is an advanced reading course for students preparing for the preliminary examination.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SOC 9998. Pre-Dissertation Research. 1 to 6 Credit Hour.
This course is for advanced graduate students who are developing a dissertation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
SOC 9999. Dissertation Research. 1 to 6 Credit Hour.
This course is for advanced graduate students, post-candidacy, working on their dissertations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.

Spanish (SPAN)

Courses

SPAN 5083. Directed Readings. 1 to 3 Credit Hour.
Guided readings in Spanish, focusing on themes and topics in Hispanic culture, literature and/or linguistics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPAN 5121. Survey in Spanish Literature. 3 Credit Hours.
Survey of selected periods and themes of Spanish literature.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPAN 5122. Medieval Spanish Literature. 3 Credit Hours.
This course analyzes Spanish texts written during the Middle Ages.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPAN 5124. 16th and 17th Century Spanish Literature. 3 Credit Hours.
This course is devoted to the study of the literature produced during what has been called the Spanish Golden Age.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPAN 5126. Cervantes. 3 Credit Hours.
The course entails an in-depth study of Miguel de Cervantes' selected works

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPAN 5136. 18th and 19th Century Spanish Literature. 3 Credit Hours.
This course is devoted to the study of Spanish literature during the 18th and 19th centuries.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPAN 5137. Hispanic Modernism. 3 Credit Hours.
Using significant works by leading authors (i.e., Casal, Gutierrez Najera, Jimenez, Machado, Marti, Unamuno, and/or Valle-Inclan), this course explores aspects of Modernity in Spain and/or Spanish America.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPAN 5138. 20th and 21st Century Spanish Literature. 3 Credit Hours.
This course is devoted to the study of Spanish literature during the 20th and/or 21st centuries.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
SPAN 5141. Survey in Spanish-American Literature. 3 Credit Hours.
Survey of selected periods and themes in Spanish American literature.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPAN 5142. Spanish-American Short Story. 3 Credit Hours.
This course explores the evolution of the Spanish-American short story.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPAN 5143. Spanish American Novel. 3 Credit Hours.
This course is devoted to the in-depth study of the Spanish-American novel.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPAN 5144. Spanish American Poetry. 3 Credit Hours.
This course studies the trends in Spanish-American poetry.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPAN 5146. National Literatures of Spanish America. 3 Credit Hours.
This course studies literature in its cultural context focusing on texts from one or more countries in Spanish America.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPAN 5147. 20th and 21st Century Puerto Rican Authors. 3 Credit Hours.
This course covers topics and authors in Puerto Rican literature.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPAN 5148. Latin American Literature of Social Conflict. 3 Credit Hours.
This course analyzes class, ethnic, gender, religious, and other social conflicts in Latin American literature.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPAN 5151. Literature of the Caribbean. 3 Credit Hours.
This course is a comparative study of representative literary works from Cuba, the Dominican Republic, Puerto Rico, and non-Spanish speaking nations of the Caribbean.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPAN 5152. U.S. Latino Literature. 3 Credit Hours.
This course examines U.S. Latino literature.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
SPAN 5161. Hispanic Literature through Art. 3 Credit Hours.
This course is a comparative study of trends and styles in Hispanic literature in the context of trends and styles in the history of art.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPAN 5301. Spanish Phonetics. 3 Credit Hours.
This course studies the articulatory and acoustic nature of Spanish phonemes and allophones, the syllable, stress, suprasegmentals, and intonation, with attention to regional variation and comparisons with English.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SPAN 5302. Introduction to Spanish Linguistics. 3 Credit Hours.
This course covers concepts and methods of linguistic description and explanation applied to the phonology, morphology, syntax, and semantics of the Spanish language.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SPAN 5303. Spanish/English Contrasts. 3 Credit Hours.
This course is a systematic study of the phonological, morphosyntactic, and lexico-semantic patterns of Spanish and English.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SPAN 5304. Spanish Applied Linguistics. 3 Credit Hours.
This course takes a linguistic approach to theories of language learning and teaching, including second language acquisition.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SPAN 5305. History of the Spanish Language. 3 Credit Hours.
This course covers the development of the Spanish language from its early beginnings (Latin) to the many present-day regional, social, and stylistic varieties. Analysis is made of the phonological, morphological, syntactic, lexical, and semantic changes Spanish went through.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SPAN 5306. Spanish Sociolinguistics. 3 Credit Hours.
This course covers the concepts and methods in sociolinguistic research as applied to the study of variation and change in the Spanish language.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SPAN 5401. The Art of Translation. 3 Credit Hours.
This is an advanced course on the strategies of translating literary texts from Spanish to English, including practice and practical orientation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
SPAN 5601. Spanish for Health Professions. 3 Credit Hours.
In this course students will acquire a foundational knowledge of the medical language and cultural practices pertinent to interactions in a healthcare context that includes Spanish-speaking and Latino patients. Intensive study of medical vocabulary, participation in role-plays, and readings of cultural norms in medical contexts will prepare students for basic interactions with Spanish-speakers. In addition to discrete vocabulary terms, students will learn to use and recognize high frequency phrases in medical contexts bettering their oral and aural skills. To develop long-term retention of vocabulary, frequent practice using video, audio, online activities and interactions with the instructor will cement new vocabulary. In alignment with the CLAS (National Standards for Culturally and Linguistically Appropriate Services), course content will cover several areas of cultural competency, which include, but are not limited to, linguistic register, managing a situation without a trained interpreter, patient dignity, respect for cultural practice, ethical use of language, etc. The emphasis of the course is on the building a breadth of foundational skills that prepare the student linguistically and knowledgeably for more in-depth study of medical Spanish, translation/interpretation and Latino health issues.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
SPAN 1003|Minimum Grade of C|May not be taken concurrently
OR LCSP EXMPT|May not be taken concurrently.

SPAN 5602. Advanced Medical Spanish. 3 Credit Hours.
In Spanish 5602 students use their Spanish for a specific purpose: providing health services to a Spanish speaker, or intervening as an interpreter or translator to facilitate the practice of some aspect of medicine. Course content covers cultural competency, health literacy, communication skills, Spanish vocabulary and expressions for anatomy, systems, diseases and health-related concerns, medical tests, nutrition, and in-depth discussions of a selection of health-related situations. All class work, student-student interactions and student-professor interactions and assignments will be in Spanish. The emphasis of the course is on oral skills, which will be practiced in a variety of online platforms including: paired recordings, synchronous sessions with the professor, recorded responses to video and audio prompts, and an interview with a healthcare professional. The oral work will include presentations, role-plays and simple medical explanations. Readings of health-related materials and articles will be assigned, followed by oral and written reports which will consolidate students' ability to express themselves on materials studied.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
SPAN 2096|Minimum Grade of C|May not be taken concurrently
OR SPAN 5601|Minimum Grade of C|May not be taken concurrently.

SPAN 5603. Latino Health Issues in the US. 3 Credit Hours.
In 2015, the Hispanic population comprised 17% of the US population with 53 million individuals with diverse backgrounds. Effectively working with this population requires an understanding of the cultural, environmental, economic and medical factors that play a part in an individual's health, wellness and care. Through contemporary readings in Spanish and English from government publications, medical journals, US and foreign newspapers and a textbook, students will gain an understanding of the diversity of the Latino population and knowledge of the current research on the health issues and concerns that most frequently impact the Latino community. Additionally, this course will include practice in language varieties and registers to help professionals recognize the myriad language varieties they might encounter and to increase sensitivity to potentially offensive language expectations; instruction in some history and geography will develop cultural competencies and background knowledge of the population. In addition to readings, discussions and an ethnography, the students will engage in case studies and problem solving. Specific topics include: Access to Health Systems, Chronic Diseases, Child and Elder care, Mental Health.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
SPAN 2096|Minimum Grade of C|May not be taken concurrently
OR SPAN 5602|Minimum Grade of C|May not be taken concurrently.
SPAN 5604. Spanish/English Interpretation Techniques for Healthcare. 3 Credit Hours.
This course introduces students to the ethics and techniques of interpretation and translation used in healthcare settings. To ensure safe and reliable communication and to help students engage in best practices whenever in the role of translator/interpreter, the course covers both translation/interpretation theory and practice. Students will learn about the roles of an interpreter, how to evaluate their ability to interpret in any given situation and how culture influences translation/interpretation. Students will work with authentic documents such as patient consent sheets, fact sheets, clinical paperwork (discharges) and medical journal articles. Interpretation practice will encompass such topics as medical diagnosis, procedural descriptions, and accurate interpretations of anatomy, physiology and medical language. Students must also demonstrate appropriate culture competence when interpreting.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
SPAN 2096|Minimum Grade of C|May not be taken concurrently
OR SPAN 5602|Minimum Grade of C|May not be taken concurrently.

SPAN 8001. Hispanic Bibliography and Research. 3 Credit Hours.
This course presents the tools and methods of research and investigation in Spanish and Ibero-American languages and literatures.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SPAN 8110. Seminar in Spanish and Spanish-American Literature. 2 to 3 Credit Hours.
The students examine intensively particular topics or issues concerning Spanish and/or Spanish-American literature. This course may be repeated if subject varies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPAN 8122. Seminar in Medieval Spanish Literature. 3 Credit Hours.
This course studies aspects of medieval Spanish literature.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPAN 8130. Seminar in Golden Age Literature. 3 Credit Hours.
This course studies aspects of Golden Age-Spanish literature

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPAN 8140. Seminar in 18th and 19th Century Spanish-American Literature. 3 Credit Hours.
This course studies aspects of 18th and/or 19th century Spanish literature.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPAN 8141. Seminar in 20th and 21st Century Spanish Literature. 3 Credit Hours.
This course studies aspects of 20th and/or 21st century Spanish literature.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPAN 8146. Colonial and 19th Century Spanish-American Literature. 3 Credit Hours.
This course studies aspects of colonial and/or 19th century Spanish American literature.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
SPAN 8147. 20th and 21st Century Spanish-American Literature. 3 Credit Hours.
This course studies aspects of 20th and/or 21st century Spanish American literature

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPAN 8149. Spanish-American Theater. 3 Credit Hours.
This graduate seminar deals with the developments in Spanish-American theater since Naturalism.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SPAN 8161. Critical Approaches to Hispanic Literature. 3 Credit Hours.
This course provides an overview of critical theories and schools of thought in literary criticism.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPAN 8300. Seminar in Spanish Linguistics. 2 to 3 Credit Hours.
This course covers selected problems in the field of Spanish language and linguistics using a contemporary analytical and/or historical approach.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPAN 8301. Spanish Phonology and Morphology. 3 Credit Hours.
This course provides an advanced theoretical and applied study of the sound system and the morphological system of present day Spanish and their relationship to each other.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPAN 8302. Syntax. 3 Credit Hours.
This course covers the advanced theoretical study of Spanish syntax that combines generalizations of a descriptive nature with current syntactic theories such as functionalism and minimalism. Topics studied are noun phrase and verb phrase structure, case assignment and arguments, predication, transitivity/intransitivity, voice and syntactic relations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPAN 8303. Hispanic Dialectology. 3 Credit Hours.
This course discusses the mechanisms of dialectal differentiation in Spain and Latin America as the result of diatopic, diastratic, and diachronic changes through normal language transmission and internal development, with special attention given to both historical and contemporary perspectives.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPAN 8304. Spanish Language of Puerto Rico. 3 Credit Hours.
This course studies the history, dialectology, and sociolinguistics of the Spanish language in Puerto Rico.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPAN 8305. Comparative Romance Linguistics. 3 Credit Hours.
This seminar covers topics from several Romance languages - Spanish, Portuguese, Italian, and French - including synchronic and diachronic perspectives.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
SPAN 8385. Internship in the Teaching of Spanish. 3 Credit Hours.
This is a theoretical and practical course required for all new teaching assistants. Theories and applications of teaching Spanish as a foreign language, class management, lesson planning, curriculum design, testing, and grading are covered. Supervision of teaching of Spanish language classes is provided.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

SPAN 8985. Teaching Higher Education: Language. 3 Credit Hours.
This course focuses on learning theory and the best teaching practices, with the aim of preparing students for effective higher education teaching.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

SPAN 9001. Spanish for Graduate Reading Knowledge. 1 Credit Hour.
This course provides guidance and practice in the reading of Spanish language texts for students preparing for the Spanish reading/translation exam.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

SPAN 9083. Directed Readings. 1 to 3 Credit Hour.
This course is offered for students who wish to pursue independent study of research topics with faculty supervision. It is not to be used as a substitute for courses offered in the Department.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credits.

SPAN 9991. Directed Research. 1 to 3 Credit Hour.
This course is offered for students who wish to pursue independent study of research topics with faculty supervision. It is not to be used as a substitute for courses offered in the Department.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

SPAN 9994. Preliminary Examination Preparation. 1 to 6 Credit Hour.
Must be taken by all graduate students in the semester following coursework completion.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

SPAN 9998. Pre-Dissertation Research. 1 to 6 Credit Hour.
Must be taken by all students in the Ph.D. program who have finished coursework, passed the Preliminary Examination, and are preparing the dissertation proposal.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

SPAN 9999. Dissertation Research. 1 to 12 Credit Hour.
This course is intended only for those students who have achieved Ph.D. Candidacy status. A minimum of 6 semester hours is required for graduation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.
Repeatability: This course may be repeated for additional credit.

Special Education (SPED)
Courses

SPED 5106. Literacy Instruction for Young Children with Disabilities. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Education.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.
Cohort Restrictions: Must be enrolled in one of the following Cohorts: EDCNDCY.
Repeatability: This course may not be repeated for additional credits.

SPED 5107. Understanding and Using Special Education Research. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

SPED 5108. Assistive Technology and Universal Design. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

SPED 5109. Classroom Management and Positive Behavior Support. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

SPED 5111. Educating Students with Disabilities in Inclusive Settings. 2 Credit Hours.
This course is an introduction to effective strategies for teaching students with disabilities. This course will identify strategies that will aid in student success throughout the middle grade years in the least restrictive environment. Emphasis is placed on evidence based strategies and activities specific to middle grades students, technology in the classroom, and ways to address diversity in today's classroom.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Education.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.
Co-requisites: MGRE 5102, SPED 5187.
Repeatability: This course may not be repeated for additional credits.

SPED 5187. Graduate Assessment Practicum in Early Childhood Special Education. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Education.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.
Cohort Restrictions: Must be enrolled in one of the following Cohorts: EDCNDCY.
Co-requisites: MGRE 5102, SPED 5111.
Repeatability: This course may be repeated for additional credit.

SPED 5201. Students with Mild to Severe Disabilities: Effective Teaching Strategies. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

SPED 5211. Effective Instructional Strategies for Young Children with Disabilities. 3 Credit Hours.
This course is an introduction to effective instruction and strategies for teaching students with disabilities across Pre K to 8th grade. The purpose of this course is to identify specific strategies that will aid in student success in the inclusive setting. Emphasis will be placed on strategies and activities specific to pre-kindergarten and elementary students, collaboration and communication strategies among professionals, technology in the classroom, and ways in which to address family participation and diversity in today's classroom.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Education.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.
Repeatability: This course may not be repeated for additional credits.
SPED 5287. Integrated Literacy and Special Education Practicum. 2 Credit Hours.
This integrated practicum experience will provide opportunities for students to apply theoretical models and research-based instructional strategies in the area of literacy to middle grades students in inclusive classrooms. Focus will be placed on developmental, cognitive, physical, social, behavioral, processing and learning needs of students and how these needs relate to comprehending written text, specifically for students having disabilities. Particular emphasis will be focused on ways to connect information from the co-requisite literacy methods course and apply this knowledge to students with disabilities in the middle grades classroom. Differentiated instruction, response to intervention, appropriate curricular modification, and authentic assessment related to appropriate instructional decision-making are themes that run throughout this learning experience.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Co-requisites: MGRE 5102, SPED 5111.
Repeatability: This course may be repeated for additional credit.

Pre-requisites:
(EDUC 5402|Minimum Grade of B-|May not be taken concurrently
AND MGRE 5101|Minimum Grade of B-|May not be taken concurrently)

SPED 5301. Building Communication in Students with Autism Spectrum Disorder and Severe Disabilities. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

SPED 5302. Students with Autism Spectrum Disorders: Effective Teaching Strategies. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

SPED 5303. Ethics and Applied Behavior Analysis. 3 Credit Hours.
This course provides the student with an overview of ethical practices and considerations for behavior analysts working across a variety of applied settings, including schools and agencies that support people with disabilities.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

SPED 5304. Concepts and Principles of Behavior Analysis. 3 Credit Hours.
This course provides the student with an introduction to the concepts and principles of behavior analysis. Core concepts including motivation, reinforcement, punishment, extinction, and rule governed and verbal behavior will be covered, along with examples of behavior change techniques that employ these concepts.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

SPED 5305. Single Subject Research Design. 3 Credit Hours.
This course provides an overview of strategies for designing and conducting single-subject research in special education. Competencies include selection of independent and dependent variables for research, measurement tactics, research design, establishing generality of results, and ensuring the integrity of research procedures. The methods discussed are not specific to any disability or age level; rather, they are a general set of methods for conducting and interpreting single-subject research.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

SPED 5401. Students with Mild Disabilities: Effective Teaching Strategies. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

SPED 5402. Effective Transition Practices for Students with Mild Disabilities. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
SPED 5501. Learning Environments. 3 Credit Hours.
Examination of the context in which exceptional persons learn. Consideration of the influence of multiculturalism, the family, school, social agencies, the media, courts, laws and forces such as inclusion as they affect the learning environment.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SPED 5511. Managing Learning Environments. 3 Credit Hours.
Provides students with the knowledge of a range of alternative management techniques appropriate for facilitating learning in classrooms, within families and in other environments. Multicultural aspects of learning environments are considered.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SPED 5512. Methods and Curriculum. 3 Credit Hours.
An introduction to the appropriate assessment and teaching of persons with disabilities at a variety of age levels. Particular emphasis placed upon the modification of the basic school curriculum.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SPED 5521. Issues in Social, Emotional, and Physical Development. 3 Credit Hours.
The nature, developmental problems, assessment, and educational intervention of physical, perceptual, motor, and socio-emotional problems are studied. Field application including observations, interviews, and trial interventions are required.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SPED 5522. Cognition, Language, and Literacy. 3 Credit Hours.
Deals with the following aspects of language and cognitive development: nature and theory, multicultural aspects, normal acquisition and development, problems in development, assessment and intervention strategies. An attempt is made to link theory and practice.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SPED 5587. Special Education Practicum. 6 Credit Hours.
The special education practicum experience is taken during the final semester of study before completion of the special education teacher preparation program requirements. Eligibility for graduation and recommendation for K-8 Special Education certification is contingent on the successful completion of this practicum. Students are provided with an opportunity to be in a classroom for an extended period of time and to put into practice what they have learned in their special education courses. Over the course of the semester, students will experience, in depth, the full role and meaning of teaching in special education and/or an inclusive classroom. Experiences include planning and organizing for instruction, developing classroom teaching competencies and skills, evaluating pupil progress, participating in extra-class activities, participating in the development of IEPs, working collaboratively with other school personnel, and utilizing school and community resources in the instructional program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPED 5611. Total Inclusion Seminar. 3 Credit Hours.
Course content focuses on inclusive practices in school, community, and employment settings for students with various degrees of disability.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SPED 5666. Inclusive School Practices. 3 Credit Hours.
School restructuring efforts that are occurring nationwide are examined and established practices to accommodating students with a range of abilities are discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
SPED 8101. Trends and Issues in Special Education. 3 Credit Hours.
Discussion and examination of current topics in special education. We will examine controversial and/or critical issues in special education, which may include: current IDEA definitions (e.g., LD, OHI, ED, and CI), controversial treatments and evidence-based practices, issues with evaluation of students (e.g., RTI, over-representation, testing), special education laws and policies, the role that research plays in education, as well as other topics relating to special education or inclusion.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SPED 8701. Proseminar in Individual Differences. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SPED 8711. Seminar in Special Education Research. 3 Credit Hours.
A seminar on problems of research as applied to special education.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SPED 8741. Seminar in Exceptionalities. 3 Credit Hours.
Current trends, problems, and issues in special education, teacher education, research, and administration.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SPED 8742. Seminar in Exceptionalities. 3 Credit Hours.
Current trends, problems, and issues in special education, teacher education, research, and administration.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SPED 9187. Practicum in Special Education. 3 to 9 Credit Hours.
Temple will place students at a site. One-half day of practice teaching, five days each week for the full semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPED 9287. Practicum in Special Education. 3 to 6 Credit Hours.
Temple will place students at a site. One-half day of practice teaching, five days each week for the full semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPED 9387. Practicum in Special Education. 3 to 6 Credit Hours.
Full-time summer practicum. Temple provides the practicum site. Five full days (mornings and afternoons) of practice teaching each week for the full summer semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPED 9485. Augmen Comm Empow Intern. 1 to 3 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SPED 9489.Fld Exp Spec Ed Supervis. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
Sport and Recreation Management (SRM)

Courses

SRM 5211. Sport Finance and Economics. 3 Credit Hours.
This course will analyze the relationship between finance and the sport and recreation industry. The purpose is to apply a series of basic financial and economic principles to the decision making process of sport firms and organizations. Issues include optimal pricing strategies, demand analysis, optimal financing, hiring decisions, and investment decisions; all of which can be undertaken with the tools addressed in this course. This course examines a variety of financial management issues relevant to major professional sport franchises, the corporations that use sport as a vehicle for promotion, and other organizations comprising the industry. Additionally, emphasis is placed on the financial and economic aspects of the public finance of sport facility construction and other forms of government subsidizes of the sport industry.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Sport Business.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

SRM 5212. Legal Issues in Sport and Recreation. 3 Credit Hours.
The course addresses the legal aspects of sport, recreation, and leisure services, with a focus on tort liability, human rights liability, criminal liability, and contractual liability. Legal concepts of negligence, situations which give rise to law suits, and principles of risk management will be covered. Legal issues related to use of equipment, facility management, and accommodation for special populations will also be addressed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

SRM 5214. Philosophy and Ethics. 3 Credit Hours.
The course will apply the traditional philosophical schools of thought (Idealism, Realism, Pragmatism, and Naturalism) to the philosophy of sport and recreation. In addition, Existentialism and Humanism will be analyzed to determine the implications for organizing sport and recreation programs. The course also covers issues and problem areas associated with ethics, ethical behavior, and ethical codes of sport and recreation professional associations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SRM 5215. Sport Marketing. 3 Credit Hours.
This course provides an overview of the core sport marketing and promotions principles. In addition to covering the essentials of the marketing mix, this course will also include lessons on the development of marketing strategies in the modern sport marketplace.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Sport Business.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

SRM 5216. Strategic Management in Sport and Recreation. 3 Credit Hours.
This course focuses on the basic functions of management and the strategic challenges confronting firms that compete in the global economy within the sport and recreation industry. It provides students a forum in which to apply and integrate management and strategic theories, practices and skills in a global environment, and across all types of organizations, including public, private, and voluntary. The course also gives opportunities for entrepreneurs in the industry through business plan development.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.
SRM 5217. Sport Facility Management. 3 Credit Hours.
The principles of planning areas and facilities for sport, recreation, and parks are explored. In addition to the design and construction of specific sport
and recreation facilities, approaches to standards and regional planning will be discussed. Problems and issues related to funding, maintenance, and
use of sport and recreation facilities will be analyzed. The course will also include trends in facility design, construction, and maintenance.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Sport Business.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

SRM 5220. Special Topics in Sport and Recreation. 3 Credit Hours.
This course is designed to provide knowledge of the psychological foundations of consumer behavior, the mechanisms of influence that are most
likely to lead consumers to change their attitudes, their beliefs, and, most importantly their actions, and how to engage these mechanisms in building
persuasive communications. The focus of this class will be on the scientific research (of behavioral scientists from multiple disciplines) that illuminates
the psychological processes underlying consumer behavior, with specific focus on spectator and participant based sport and recreation activities.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may be repeated for additional credit.

SRM 5221. Sport Governance and Policy. 3 Credit Hours.
The course addresses the various approaches to organizing and governing sport and athletic programs from school sports to professional sports,
from individual conferences to international organizations. Principles, issues, and problem areas associated with the governance of individual athletic
departments will be addressed as well as the principles, issues, and problem areas associated with athletic conferences, and national and international
governing bodies. Specific problems in relation to the size, structure, and staff of athletic departments and sport governing bodies will be analyzed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

SRM 5222. Facility Management. 3 Credit Hours.
The principles of planning areas and facilities for sports, recreation, and parks are explored. In addition to the design and construction of specific sport
and recreation facilities, approaches to standards and regional planning will be discussed. Problems and issues related to funding, maintenance, and
use of sport and recreation facilities will be analyzed. The course will also include trends in facility design, construction, and maintenance.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

SRM 5224. Grad Seminar: Sport/Rec. 3 Credit Hours.
Problems involving organizational patterns and administrative functions essential to effective program organization will be analyzed. There will be special
emphasis on staffing, scheduling, records, equipment, fund raising, equipment liability, and plant facilities. Sessions with leaders and practitioners in
sport and administration will be included.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

SRM 5225. Sport Sponsorship and Sales. 3 Credit Hours.
The course analyzes and produces skills essential to revenue production through sport sponsorship and a variety of approaches and the identification
of the various areas and components of sales in the sport industry. Sales theory, principles, current issues, and understanding the unique selling trends
of organizations will be addressed as they apply to all levels of programs and in all types of contexts. Experiential learning will be a priority and will be
infused into the content delivery through the learning experience.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.
SRM 5226. Consumer Behavior in Sport and Recreation. 3 Credit Hours.
This course is designed to provide knowledge of the psychological foundations of consumer behavior, the mechanisms of influence that are most likely to lead consumers to change their attitudes, their beliefs, and, most importantly their actions, and how to engage these mechanisms in building persuasive communications. The focus of this class will be on the scientific research (of behavioral scientists from multiple disciplines) that illuminates the psychological processes underlying consumer behavior, with specific focus on spectator and participant based sport and recreation activities.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

SRM 5227. Sport Media and Communication. 3 Credit Hours.
This course examines the various aspects of the relationship between sport and both media and communication. An overview of theories in media and communication is systematically provided and discussed. It focuses on the nature of traditional and digital media and its implication for sport policy and management. Specifically, the relationship between the sender, the message, the medium, and the audience are critically examined. Communication management and strategy are also discussed as the production, organization, and consumption of sport involve a wide range of communicative processes. Attention is also paid to the legal and ethical aspects of sport communication.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Sport Business.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

SRM 5231. Compliance and Student-Athlete Affairs. 3 Credit Hours.
This course addresses the current state of rules compliance and student services in intercollegiate athletics. Regulations and enforcement structure will be examined at the national, conference, and institutional levels. The course will also detail the support mechanisms and corresponding legislation aimed at the academic and personal development of student-athletes. The implications and consequences of such legislation will be explored.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Sport Business.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

SRM 5232. Fundraising and Development. 3 Credit Hours.
This course provides an overview of the role of fundraising and development in a sport setting. Students will gain an understanding of the strategies and processes used to generate revenue through philanthropic giving for programs. Environmental analyses and strategic planning will be central to training students to develop appropriate, successful fundraising and development programs. The role of governing bodies, ethical and legal implications will also be addressed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

SRM 5233. Governance and Policy in Intercollegiate Athletics. 3 Credit Hours.
The purpose of this course is to provide an in depth overview of intercollegiate athletic governing bodies. The students will gain an understanding of the structure, policies, finances, and current issues related to intercollegiate athletics. Additionally, students will identify appropriate strategies for effectively dealing with current issues/problems in intercollegiate athletics.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Sport Business.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.
SRM 5241. Evaluation of Programs and Events. 1.5 Credit Hour.
The goal of this course is to provide students with the background necessary to understand the evaluation process in the field of events and recreation management. The focus of the class is on evaluation, assessment, and different types of program evaluation, including needs assessment, formative research, process evaluation, monitoring of outputs and outcomes, impact assessment, and cost analysis. Both quantitative and qualitative research methods are addressed. Students will execute an applied evaluation project. This project involves practice in interviewing, focus groups, survey questionnaire development, data collection, and data analysis. The course will provide students with a conceptual map of how evaluation research is conducted, the resources available to them, the vocabulary of research, and guidance in writing an evaluation report.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Sport Business.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

SRM 5242. Business of Non-Profit Organizations. 1.5 Credit Hour.
This course examines the theoretical, philosophical, practical, and ethical perspectives related to the effective management and leadership of not-for-profit organizations in the twenty-first century. Students will examine strategies related to governance and policy development in the not-for-profit organization. The fundamental differences of working for a non-profit or government entity will be discussed and compared/contrasted with for-profit organizations. In addition, students will examine the unique managerial challenges posed to not-for-profit organizations and the typical techniques and practices used by leaders in the public and non-profit sectors. The course will also familiarize students with the legal implications, unique financial management, and revenue generating models of not-for-profit organizations.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Sport Business.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

SRM 5243. Event Management. 3 Credit Hours.
An experience-based course, this course will present principles of event management, along with a broad overview of opportunities in the industry. There will be a special focus on current trends and technology, risk management, staffing, and budgeting. A wide diversity of experiences will be available.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Sport Business.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

SRM 5251. Sport Analytics. 3 Credit Hours.
The class will discuss the theory, development, and application of analytics in sport. Students will learn about the application of analytics in sport for purposes of evaluating player performance, team management, market segmentation, pricing, and other areas in sport industry operations. Analytics includes the inclusive use of data, statistical and quantitative analysis, explanatory and predictive models, and fact-based decision making. Analytic methods are employed to gain insights on team and player production, human resource practices, and game management. Additionally, quantitative methods are used to analyze pricing, advertising, promotions, and other sport business decisions. Many new techniques and methods to communicate analytical results are emerging and will be a factor in this new area of sport analytics.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Sport Business.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
STAT 5001|Minimum Grade of B-|May not be taken concurrently.

SRM 5252. Sport for Development. 3 Credit Hours.
In grassroots development and peace promotions, sport is used in an extremely wide range of situations - whether as an integrated tool in short-term emergency human aid activities, or in long-term development cooperation projects on local, regional, or global scales. This course explores the role sport plays as a promoter of social integration and economic development in different geographical, cultural, and political contexts.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
SRM 5255. The Sport Workplace. 3 Credit Hours.
This course focuses on the basic functions of management and the strategic challenges confronting firms that compete in the global economy within the sport and recreation industry. It provides students a forum in which to apply and integrate management and strategic theories, practices and skills in a global environment, and across all types of organizations including public, private, and voluntary. The course focuses on specific elements of the workplace that are distinctive within the sport industry, such as the role of affect and organizational climate. Career opportunities and industry labor statistics are introduced in depth to allow a full view of the broad sport industry.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

SRM 5285. Graduate Internship in Sport and Recreation. 3 Credit Hours.
The Graduate Internship experience represents the culminating experience for all MS students during their semester of graduation. A minimum of 3 credit hours is required for all students, regardless of concentration. The Graduate Internship utilizes a field placement with emphasis on acquisition and application of practical skills. One hundred and eighty contact hours will take place in cooperation between the student and an agency, under supervision of both the University internship coordinator and the agency-designated supervisor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.
Repeatability: This course may be repeated for additional credit.

Sport, Tourism and Hospitality Management (STHM)

Courses

STHM 5111. Applied Research. 3 Credit Hours.
The course equips the student with an understanding of the process of pure and applied research and the scientific method, including an introduction to statistics and computer applications. It prepares the student to analyze critically the scientific literature of sport, recreation, tourism, hospitality, and leisure. The course will address the major ways of conceptualizing and designing research, and acquiring, interpreting, and disseminating data. It will focus on applied research, with the expectation that the students will learn the practical application of research uses in the professional setting.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.
Repeatability: This course may not be repeated for additional credits.

STHM 5411. Management of Organizations. 3 Credit Hours.
The course addresses the basic functions of management as they pertain to the administration of organizations that function in primarily service industries like those represented by STHM. Management theory, principles, current issues, and problem areas will be addressed as they apply to all levels of programs and in all types of organizations, including public, private, and voluntary.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.
Repeatability: This course may not be repeated for additional credits.

STHM 5413. Financial Management. 3 Credit Hours.
The course will analyze managerial accounting and financial management, along with management strategies for financing ventures and expansion. Topics will include accounting systems and internal control, financial statement analysis and interpretation, operational analysis, cost behavior, budgeting and forecasting, pricing and feasibility analysis. Computer applications will be highlighted.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.
Repeatability: This course may not be repeated for additional credits.
STHM 5415. Service Marketing. 3 Credit Hours.
The marketing mix (promotions, public relations, sales, advertising, operations, pricing) as applied to various settings will be analyzed, as well as
marketing segmentation and targeting. The application of the principles specific to service marketing will be a primary focus of the course, which will
employ case study methods in addition to traditional content delivery. Current issues and problem areas associated with marketing and public relations
will be analyzed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

STHM 5483. Readings and Conferences. 1 to 3 Credit Hour.
This course provides an opportunity for students to engage in extensive readings in the literature, under the direction of a faculty advisor, into topics
not covered in other courses in the curriculum. Students must present a written proposal to a faculty advisor explaining why they wish to engage in
additional readings in the literature as a part of their graduate degree program. The student will meet periodically on an arranged basis with the faculty
advisor to discuss the readings.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may be repeated for additional credit.

STHM 9001. Research Seminar. 3 Credit Hours.
Methodologies and techniques for the scientific investigation of tourism will be discussed. Trends in the history of tourism research will be identified
through a critical analysis of the literature. Quantitative methods for tourism analysis will be discussed. The dissertation process will be highlighted, with
preliminary development of a dissertation proposal being required.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

STHM 9002. Seminar in Theory Development: Tourism and Sport Concepts. 3 Credit Hours.
The impacts of tourism on both the host and guest will be discussed. Major theoretical approaches for understanding (a) tourism behavior and (b)
tourism impacts will be addressed. Tourism theoretical foundation and the empirical record of tourism impacts will be related to tourism planning,
development, and policy formulation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

STHM 9003. Sem:Tour/Hosp Mgt/Ebus. 3 Credit Hours.
Electronic business and the Internet have impacted the tourism industry, especially the role of managers and management decisions, tremendously.
This course will discuss the various business models that are used, highlight the successes and failures of these models, and strategize for
disseminating the information to future managers.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

STHM 9004. Seminar in Culture and Communication. 3 Credit Hours.
This course focuses on the study of culture and communication in the context of tourism and sport. It draws on a growing body of cross-cultural
research to examine ways in which cultural factors influence human behavior and communication, and interact in the development of such concepts
as perception, identity, emotion, authenticity, interpretation, meaning, etc. In what ways are we alike? In what ways are we different? Why? The
course explores world views, cultural values, relationships, communication theories and practices, and other topics in order to provide a context for
understanding the differences in human behavior and communication and what those differences tell us about ourselves and others and, in particular,
our experiences. The understanding of culturally different human behavior and communication presents a global challenge to the tourism and sport
industry in the 21st century.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.
STHM 9090. Special Topics in Tourism and Sport. 1 to 3 Credit Hour.
This seminar is designed to provide an in-depth exploration of special topics, current issues, and trends in tourism and sport as they relate to topics such as interpretation of international multiculturalism; concepts of strategic management; the use of information technology and its impact on destinations; competitive strategy and marketing; environmental trends, planning, and development; policy formulation; and the social and economic impact of tourism and sport. Relevant industry problems and issues facing management and personnel in the related industries are discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may be repeated for additional credit.

STHM 9482. Independent Study. 3 Credit Hours.
This course provides an opportunity for students to engage in systematic investigations, under the direction of a faculty advisor, into topics not covered in other courses in the curriculum. Students must present a written proposal to a faculty advisor explaining why they wish to undertake an independent study course as a part of their graduate degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may be repeated for additional credit.

STHM 9795. Master’s Continuation. 1 Credit Hour.
For master's candidates in the final stages of their program after coursework completion. Taken by arrangement with School adviser/coordinator. Satisfies continuous registration requirement in the final semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

STHM 9982. Independent Research. 2 to 12 Credit Hours.
This course provides an opportunity for students to engage in independent formal research, under the direction of a faculty advisor, into research questions which are not covered in other courses in the curriculum. Students must present a written proposal to a faculty advisor explaining why they wish to conduct independent formal research as a part of their degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may be repeated for additional credit.

STHM 9994. Preliminary Examination Preparation. 1 Credit Hour.
This course is designed for those doctoral students who have completed all of the prescribed courses, but have not completed their doctoral comprehensive exams. Students will work with a doctoral advisor to develop a plan of study to prepare for the doctoral comprehensive exams.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may be repeated for additional credit.

STHM 9995. Master's Project. 3 Credit Hours.
Sessions will be scheduled by arrangement with the Master's Project adviser. The Master's Project is limited to those who plan to earn the master's degree by completing a project.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may be repeated for additional credit.

STHM 9996. Master's Thesis. 3 or 6 Credit Hours.
Sessions will be scheduled by arrangement with the Master's Thesis adviser. The Master's Thesis is limited to those who plan to complete the master's degree by writing a thesis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may be repeated for additional credit.
STHM 9998. Pre-Dissertation Research. 1 to 3 Credit Hour.
This course is designed for those doctoral students who have completed their doctoral Preliminary exams but who have not completed their dissertation proposal. Students will work with their assigned dissertation advisor to develop a plan of study leading to the approval of their dissertation proposal.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may be repeated for additional credit.

STHM 9999. Doctoral Dissertation. 1 to 9 Credit Hour.
This course is designed for those doctoral students who have completed their dissertation proposal. Students will work with their assigned dissertation advisor and their dissertation steering committee to conduct the study outlined in the dissertation proposal. Students must remain registered for Doctoral Dissertation until the dissertation is approved by the examination committee at an oral defense, and the final copies of the dissertation are registered in the Graduate School.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.

Statistics (STAT)

Courses

STAT 5001. Quantitative Methods for Business. 1 to 3 Credit Hour.
This course is designed to introduce you to contemporary elementary applied statistics and to provide you with an appreciation for the uses of statistics in business, economics, everyday life, as well as hands-on capabilities needed in your later coursework and professional employment.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

STAT 5002. Introduction to Biostatistics. 3 Credit Hours.
Topics cover statistical methods and concepts with special emphasis on applications in health and biological sciences.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

STAT 5170. Special Topics. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

STAT 5182. Independent Study. 1 to 6 Credit Hour.
Special study in a particular aspect of statistics under the direct supervision of an appropriate graduate faculty member. No more than six semester hours of independent study may be counted toward degree requirements.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

STAT 5190. Special Topics - Stat. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

STAT 5282. Independent Study. 1 to 3 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
STAT 5001 Minimum Grade of B-/May not be taken concurrently.
STAT 5301. Foundations for Data Analytics. 1.5 Credit Hour.
Statistical analytics provide a competitive edge to organizations by extracting information from data and helping understand risky and random events. Statistical analytics are an important part of the decision making process, allowing managers to make informed strategic decisions that combine executive intuition with a thorough understanding of data. Using statistical methods to extract information from data, and providing an indication of the quality of that information, adds value to an organization’s strategic decision making process. This course is designed to develop strong skills in data analysis, modeling, and decision making under uncertainty. It is designed to train students to use valid inferences from data and make informed decisions. The topics covered in the course include data visualization, descriptive statistics, estimation, hypothesis testing, and regression analysis. This course emphasizes the applications of statistical analytic techniques through lectures, case analysis and computer exercises. Computations are facilitated using Excel, and students are expected to interpret and translate statistical results into a language understood by a non-technical audience.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Co-requisites: MIS 5301.

Repeatability: This course may not be repeated for additional credits.

STAT 5401. Foundations for Data Analytics. 1.5 Credit Hour.
Statistical analytics provide a competitive edge to organizations by extracting information from data and helping understand risky and random events. Statistical analytics are an important part of the decision making process, allowing managers to make informed strategic decisions that combine executive intuition with a thorough understanding of data. Using statistical methods to extract information from data, and providing an indication of the quality of that information, adds value to an organization’s strategic decision making process. This course is designed to develop strong skills in data analysis, modeling, and decision making under uncertainty. It is designed to train students to use valid inferences from data and make informed decisions. The topics covered in the course include data visualization, descriptive statistics, estimation, hypothesis testing, and regression analysis. This course emphasizes the applications of statistical analytic techniques through lectures, case analysis and computer exercises. Computations are facilitated using Excel, and students are expected to interpret and translate statistical results into a language understood by a non-technical audience.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Co-requisites: MIS 5401.

Repeatability: This course may not be repeated for additional credits.

STAT 5602. Visualization: The Art of Numbers and the Psychology of Persuasion. 3 Credit Hours.
Organizations are collecting an unprecedented volume of data, and analysts are producing information from data using analytics and models. None of the information that is extracted from the data is usable unless it can be effectively communicated. In this course, we will begin with the fundamental questions of communication: Who is the audience? What is the information? What is the goal? Using these questions to focus our thoughts, we will explore the techniques that allow you to select appropriate information and to craft a narrative that clearly and effectively communicates this information using visual elements. Producing good visual displays is a combination of art and science and compromise between function and form. We will discuss how humans process and encode visual and textual information in relation to selecting an appropriate visual display, and we will cover topics including: exploratory data analyses, charts, tables, graphics, static and dynamic displays, effective presentations, multimedia content, animation, and dashboard design. Examples and cases will be used from a variety of industries.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.
STAT 5603. Statistical Learning and Data Mining. 3 Credit Hours.
This course is designed to change the way you think about data. Numerous firms have demonstrated that the ability to reliably extract managerially-relevant information from data is a potent and enduring source of competitive advantage, a realization that transforms data into an asset that can be a primary source of competitive advantage. Competition is pushing organizations to "mine" (or extract) these insights faster, with greater reliability, and in ways that maximize the probability of implementation. In this course we will explore how statistical learning and data mining techniques can be used to improve decision-making and profitability. The course will provide an overview of the fundamental principles and techniques of data mining, and we will use real-world examples, cases, and "hands-on" techniques to demonstrate data-mining techniques in context, to develop your analytic thinking, and to develop your model building acumen.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
STAT 5001|Minimum Grade of B-|May be taken concurrently
OR (MIS 5301|Minimum Grade of B-|May be taken concurrently
AND STAT 5301|Minimum Grade of B-|May be taken concurrently
OR (MIS 5401|Minimum Grade of B-|May be taken concurrently
AND STAT 5401|Minimum Grade of B-|May be taken concurrently

STAT 5604. Experiments: Knowledge by Design. 3 Credit Hours.
How do we know which policies, strategies, and decisions work, which should be continued, and which should be changed? Organizations frequently implement strategies and changes, only to find that they fail to produce their intended effects. Thus, there is a gap between what "sounded good" and what was "right." Ultimately, the gold standard for assessing what is "right" is a controlled experiment, which is the least utilized technique in the corporate arsenal. Experiments provide a structured way to construct a feedback loop that allows us to identify errors in our beliefs and to ascertain the real drivers of outcomes. In this course, we will explore how to use this "test and learn" paradigm to answer questions such as how advertising should be designed and targeted, what types of promotions are most effective, what products should be offered, how employees should be compensated, which sales channels should be emphasized, how webpages should be designed, and more. Experiments are an ideal way to understand how to implement a "test and learn" approach to management and to separate the "signal" from the "noise."

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
STAT 5001|Minimum Grade of B-|May be taken concurrently
OR (MIS 5301|Minimum Grade of B-|May be taken concurrently
AND STAT 5301|Minimum Grade of B-|May be taken concurrently
OR (MIS 5401|Minimum Grade of B-|May be taken concurrently
AND STAT 5401|Minimum Grade of B-|May be taken concurrently

STAT 5605. Decision Models: From Data to Decisions. 3 Credit Hours.
Good analysts know that predictions are always uncertain. However, merely expressing uncertainty is not sufficient for decision making. In addition, we need to combine the results of uncertain inputs into a more general model, account for the relative severity of negative outcomes, and choose a strategy that best achieves our goals (e.g. highest expected value, most robust, least chance of losing, etc.). We also need to communicate the process and conclusions to constituents and to decision-makers. This course focuses on techniques for combining uncertain inputs into a decision model that can be used to characterize likely and unlikely outcomes, to quantify risk, and to identify inputs to a decision that are "high leverage" (i.e., outcomes are very sensitive to those inputs). In addition, you will learn how to build a decision model, how to make better decisions in the presence of uncertainty, and how to deal with multi-stage decisions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
STAT 5001|Minimum Grade of B-|May be taken concurrently
OR (MIS 5301|Minimum Grade of B-|May be taken concurrently
AND STAT 5301|Minimum Grade of B-|May be taken concurrently
OR (MIS 5401|Minimum Grade of B-|May be taken concurrently
AND STAT 5401|Minimum Grade of B-|May be taken concurrently)
STAT 5606. Data: Care, Feeding, and Cleaning. 3 Credit Hours.
Data is ubiquitous. Real data is also “dirty.” Analysis of unclean data can significantly distort the results of analyses, and it can reduce or eliminate
the benefits of an information-driven strategy. Thus, the first step in generating good information from data is to “clean” the data. Substantial research
has been done on procedures to automatically or semi-automatically identify—and, when possible, correct—errors in large datasets. Even after data
have been “scrubbed” the datasets are frequently not in the correct configuration for analysis. Data combination and manipulation involves techniques
for merging and summarizing datasets, extracting subsets of data, and transforming variables within the datasets. In this course we explore tools
and techniques for cleaning raw data (fixing errors, identifying outliers, etc.), extracting subsets or samples of data, merging and combining datasets,
summarizing disaggregate data, and manipulating and transforming individual variables within the datasets. We will also discuss good procedures for
ensuring data quality and reliability in data collection. In addition, we will discuss techniques to identify issues in data collection and how to clean the
data.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
STAT 5001|Minimum Grade of B-|May be taken concurrently
OR (MIS 5301|Minimum Grade of B-|May be taken concurrently
AND STAT 5301|Minimum Grade of B-|May be taken concurrently)
OR (MIS 5401|Minimum Grade of B-|May be taken concurrently
AND STAT 5401|Minimum Grade of B-|May be taken concurrently)

STAT 5607. Advanced Business Analytics. 3 Credit Hours.
This course builds upon the foundation in Business Analytics. In previous courses, we saw that data by itself is useless, and that it must be transformed
into information in order to have value to decision makers. This course will extend your understanding of the art and science of extracting information
from data into increasingly complex and “real world” data. Specifically, we will cover extensions to regression, logistic regression, hierarchical modeling,
model selection, and other topics spanning the process of building and evaluating models. In addition, we will practice drawing intuition and insight from
models and effectively communicating that insight in a format that can help decision-makers to make better decisions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
STAT 5001|Minimum Grade of B-|May be taken concurrently
OR (MIS 5301|Minimum Grade of B-|May be taken concurrently
AND STAT 5301|Minimum Grade of B-|May be taken concurrently)
OR (MIS 5401|Minimum Grade of B-|May be taken concurrently
AND STAT 5401|Minimum Grade of B-|May be taken concurrently)

STAT 5611. Business Analytics II. 1.5 Credit Hour.
Organizations are drowning in a sea of data. However, data by itself is useless. To have value, it must be transformed into information that can be used
to make decisions. It has been shown by myriad companies that one path to success in the business arena is through superior use of information -
information about customers, markets, and operations. This course extends the material presented in Business Analytics I, continuing the development
of the art and science of extracting information from data. The emphasis is on using extracted information to improve business decisions. It also delves
into the presentation of quantitative data using state of the art tools and techniques.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MIS 5301|Minimum Grade of B-|May not be taken concurrently
AND STAT 5301|Minimum Grade of B-|May not be taken concurrently)
OR (MIS 5401|Minimum Grade of B-|May not be taken concurrently
AND STAT 5401|Minimum Grade of B-|May not be taken concurrently)
OR STAT 5001|Minimum Grade of B-|May not be taken concurrently.
STAT 5801. Statistical Analysis for Management. 3 Credit Hours.
In this course, you'll learn how to use statistics to help solve business problems throughout an enterprise. You'll examine case examples of statistical analysis in areas such as marketing, finance and management. You'll learn descriptive and inferential techniques such as regression analysis and how to analyze data and reach decisions, using statistical computer software and Excel.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

STAT 5802. Quantitative Techniques for Management. 3 Credit Hours.
In this course you'll apply advanced quantitative techniques for managerial decision-making such as forecasting, linear programming, simulation, decision analysis, Markov chains and game theory. You'll use customized software and Excel to analyze these models extensively and apply them to decisions regarding resource allocation and other managerial problems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

STAT 5890. Special Topics. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

STAT 8001. Probability and Statistics Theory I. 3 Credit Hours.
Topics include basic probability theory and combinatorial problems, generating functions, random variables, probability distributions, law of large numbers, and limit theorems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(STAT 8001|Minimum Grade of B-|May not be taken concurrently
AND STAT 8002|Minimum Grade of B-|May not be taken concurrently)

STAT 8002. Probability and Statistics Theory II. 3 Credit Hours.
A comprehensive development of the theory of statistics, including standard distributions, sampling distributions, general theory of estimation, testing of hypotheses, statistical decision theory, order statistics, linear statistical estimation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(STAT 8001|Minimum Grade of B-|May not be taken concurrently
AND STAT 8002|Minimum Grade of B-|May not be taken concurrently)

STAT 8003. Statistical Methods I. 3 Credit Hours.
Introduction to applied statistics. Topics include data management, probability distributions, parameter estimation, hypothesis testing, sampling methodologies, graphical display, analysis of variance, and simple and multiple regression. Use of R, S-Plus and SAS statistical software.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MATH 2031|Minimum Grade of B-|May not be taken concurrently.

STAT 8004. Statistical Methods II. 3 Credit Hours.
Design of experiments, analysis of discrete data, introduction to nonparametric methods, logistic regression, ARIMA time series analysis, bootstrapping, jackknife, robustness, and selected topics in multivariate analysis. Use of R, S-Plus and SAS statistical software.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
STAT 8003|Minimum Grade of B-|May not be taken concurrently.
STAT 8031. Probability and Large Sample Theory. 3 Credit Hours.
An advanced level theoretical course covering measure theoretic probability, some probability inequalities, statistical independence, strong and weak laws of large numbers, convergence in distribution, variance stabilizing transformations, characteristic functions and central limit theorem.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
STAT 8001|Minimum Grade of B|May not be taken concurrently.

STAT 8101. Stochastic Processes. 3 Credit Hours.
This is a first course in stochastic processes, with an emphasis on continuous-time models that support applications in financial mathematics and derivative evaluation. The course covers: fundamentals of probability, limit theorems, conditional expectation, change of measures, Markov chains, random walks, martingales, Brownian motion, the Ito integral, stochastic differential equations, the Black-Scholes model and its use in evaluating a variety of financial derivatives.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MATH 1031|Minimum Grade of B-|May not be taken concurrently
OR MATH 1931|Minimum Grade of B-|May not be taken concurrently
OR MATH 1041|Minimum Grade of B-|May not be taken concurrently
OR MATH 1941|Minimum Grade of B-|May not be taken concurrently
OR MATH 1038|Minimum Grade of B-|May not be taken concurrently
OR MATH 1042|Minimum Grade of B-|May not be taken concurrently
OR MATH 1942|Minimum Grade of B-|May not be taken concurrently.

STAT 8102. Statistical Methods III. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
STAT 8004|Minimum Grade of B-|May not be taken concurrently.

STAT 8103. Sampling Theory. 3 Credit Hours.
Theory and application of sampling from finite populations. Topics include random, stratified, cluster, and systematic sampling; estimation of means and variances; optimal allocation of resources; problems of nonsampling errors; and ratio and regression estimation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
STAT 8003|Minimum Grade of B-|May not be taken concurrently.

STAT 8104. Mathematics for Stat. 3 Credit Hours.
Vector spaces; linear independence of vectors and basis; matrices and algebraic operations on matrices; determinants; rank of a matrix; inverse of nonsingular matrices; linear equations and their solutions; generalized inverse of a matrix; eigen values and vectors of matrices; diagonalization theorems; quadratic forms and their reduction to sum of squares; Jacobians.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
MATH 2101|Minimum Grade of B-|May not be taken concurrently
OR MATH 2103|Minimum Grade of B-|May not be taken concurrently.
STAT 8105. Univariate Time Series Analysis. 3 Credit Hours.
Theory and application of univariate time series analysis. Includes both time domain and frequency domain methods. Considers stationary and nonstationary linear processes, time series model building, forecasting, unit root test, intervention models and outlier detection, spectral theory of stationary processes, spectral windows, and estimation of spectrum.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
STAT 8002|Minimum Grade of B-|May not be taken concurrently.

STAT 8106. Linear Models I. 3 Credit Hours.
Covers the basic theory and practice of generalized linear models (GLM), such as the logistic, Poisson and gamma regression, as well as models for multilevel or longitudinal Gaussian responses, such as the hierarchical linear model and linear mixed model. The students will need to work with R and SAS throughout the semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(STAT 8002|Minimum Grade of B-|May not be taken concurrently)
AND (STAT 8004|Minimum Grade of B-|May not be taken concurrently)
AND (STAT 8104|Minimum Grade of B-|May not be taken concurrently)

STAT 8107. Design of Experiments I. 3 Credit Hours.
Principles of experimental designs, completely randomized designs, multiple comparisons, randomized block design, latin square design, missing value problems, analysis of covariance, and factorial experiments.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
STAT 8004|Minimum Grade of B-|May not be taken concurrently.

STAT 8108. Applied Multivariate Analysis I. 3 Credit Hours.
Multivariate normal distribution; marginal and conditional distributions; estimation of population mean vector and dispersion matrix; correlation, partial correlation, and multiple correlation coefficients; Hotelling's T2; MANOVA; discriminant function; repeated measurements analysis; principal components and canonical correlation; factor analysis; and multidimensional scaling.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(STAT 8004|Minimum Grade of B-|May not be taken concurrently)
AND (STAT 8104|Minimum Grade of B-|May not be taken concurrently)

STAT 8109. Regression, Time Series, and Forecasting for Business Applications. 3 Credit Hours.
Intermediate level course that covers regression analysis, time series analysis, and forecasting. The course is application oriented and standard statistical packages such as MINITAB are introduced and extensively used.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
STAT 5001|Minimum Grade of B-|May not be taken concurrently.
STAT 8111. Survey Techniques for Business Applications. 3 Credit Hours.
Application oriented. A course dealing with statistical and nonstatistical aspects of organizing a sample survey. Included are discussions of objectives, measurement, sample selection, pilot testing, data collection, data editing, summarization and interpretation of results in addition to describing the various sampling schemes. Students may be required to plan and execute a survey.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
STAT 5001|Minimum Grade of B-|May not be taken concurrently.

STAT 8112. Statistical Methods for Business Research I. 3 Credit Hours.
Part I of a doctoral level, one-year sequence of courses for the PhD students in Business Administration program. The course covers a variety of statistical methods useful in business research, such as: multiple regression analysis, ANOVA, linear models, analysis of covariance, logistic regression, principal component analysis, exploratory factor analysis and canonical correlation analysis. Emphases are placed on rationales, assumptions, techniques, and interpretation of results from computer packages. Relevant mathematical results will be presented, but proofs or abstract arguments shall be avoided. The lectures cover computer usages, such as R and/or SAS, and the students are expected to work with SAS (or equivalent packages) throughout the semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
STAT 2101|Minimum Grade of B-|May not be taken concurrently
OR STAT 2901|Minimum Grade of B-|May not be taken concurrently
OR STAT 2103|Minimum Grade of B-|May not be taken concurrently
OR STAT 2903|Minimum Grade of B-|May not be taken concurrently
OR MATH 2031|Minimum Grade of B-|May not be taken concurrently
OR MATH 3032|Minimum Grade of B-|May not be taken concurrently.

STAT 8113. Statistical Methods for Business Research II. 3 Credit Hours.
Part II of a doctoral level, one-year sequence of courses for the PhD students in Business Administration program. Topics covered in this course are: discriminant analysis, confirmatory factor analysis and structural equations modeling, time-series intervention analysis, survival (event history) analysis, MANOVA, multivariate profile analysis, hierarchical linear models (HLM), linear mixed models (LMM) for multilevel data.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
STAT 8112|Minimum Grade of B-|May not be taken concurrently.

STAT 8114. Survival Analysis I. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

STAT 8115. Nonparametric Methods. 3 Credit Hours.
A thorough course in nonparametric statistics. Estimation and testing of hypothesis when the function form of the population distribution function is not completely specified.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
STAT 8002|Minimum Grade of B-|May not be taken concurrently.
STAT 8116. Categorical Data Analysis. 3 Credit Hours.
Sampling models and analyses for discrete data: Fisher's exact test; Logistic regression; ROC analysis; Log-linear models and Poisson regression; Conditional logistic regression; Cochran-Mantel-Haenszel test; Measures of agreement between observers; Quasi-independence; Multinomial logit models; Proportional odds model; Association models; generalized estimating equations (GEE); generalized linear mixed model (GLIMMIX); GSK models; Composite link functions. The students will need to work with R and SAS throughout the semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
STAT 8002|Minimum Grade of B-|May not be taken concurrently.

STAT 8117. Clinical Trials. 3 Credit Hours.
Introduction to the special problems associated with medical trials on humans. Topics include randomization, sample-size determination, methods for early trial termination, and tests for superiority, equivalence, and non-inferiority. Also discussed are choice of endpoints, control, side effects, use of historical data, meta-analysis and ethics of experimentation on humans.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
STAT 8002|Minimum Grade of B-|May not be taken concurrently
OR STAT 8004|Minimum Grade of B-|May not be taken concurrently.

STAT 8121. Statistical Computing. 3 Credit Hours.
Use of computers in the solution of statistical problems. Topics include: floating point architecture, random number generation, design of statistical software, computational linear algebra, numerical integration, optimization methods.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
STAT 8004|Minimum Grade of B-|May not be taken concurrently.

STAT 8122. Advanced SAS Programming. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MATH 1042|Minimum Grade of B-|May not be taken concurrently
OR MATH 1942|Minimum Grade of B-|May not be taken concurrently)
AND (STAT 8001|Minimum Grade of B-|May not be taken concurrently)
AND (STAT 8002|Minimum Grade of B-|May not be taken concurrently)

STAT 8123. Time Series Analysis and Forecasting. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(STAT 8002|Minimum Grade of B-|May not be taken concurrently
OR STAT 8101|Minimum Grade of B-|May not be taken concurrently)
AND (ECON 8009|Minimum Grade of B-|May not be taken concurrently
OR MATH 3032|Minimum Grade of B-|May not be taken concurrently)

STAT 8982. Independent Study. 1 to 3 Credit Hour.
Special study in statistics theory and methods under the supervision of a graduate faculty member.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
STAT 9001. Advanced Statistical Inference I. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(MATH 1042|Minimum Grade of B-|May not be taken concurrently)
OR MATH 1942|Minimum Grade of B-|May not be taken concurrently)
AND (STAT 8001|Minimum Grade of B-|May not be taken concurrently)
AND (STAT 8002|Minimum Grade of B-|May not be taken concurrently)

STAT 9002. Advanced Statistical Inference II. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

STAT 9090. Special Topics. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may be repeated for additional credit.

STAT 9101. Multivariate Time Series Analysis. 3 Credit Hours.
Theory and application of multiple time series analysis and special topics. Covers transfer function models, time series regression with autocorrelated errors, ARCH and GARCH models, vector time series models, cointegration, state space models, long memory processes and nonlinear processes, time series aggregation and disaggregation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
STAT 8105|Minimum Grade of B-|May not be taken concurrently.

STAT 9103. Stat Lrng & Data Mining. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(STAT 8001|Minimum Grade of B-|May not be taken concurrently)
AND (STAT 8002|Minimum Grade of B-|May not be taken concurrently)
AND (STAT 8003|Minimum Grade of B-|May not be taken concurrently)
AND (STAT 8004|Minimum Grade of B-|May not be taken concurrently)

STAT 9106. Linear Models II. 3 Credit Hours.
Continuation of Stat 8106, covers the theory and practice of analyzing multivariate repeated/correlated non-Gaussian responses, with or without missing observations. Missing at random (MAR) models; informative missingness; EM algorithm; multiple imputations; quasi-likelihood estimation; generalized estimating equations (GEE); transition models; Gibbs sampling; Markov Chain Monte-Carlo (MCMC) technique. The students will need to work with R, SAS and WinBugs throughout the semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
STAT 8106|Minimum Grade of B-|May not be taken concurrently.
STAT 9107. Design of Experiments II. 3 Credit Hours.
Covers symmetric and asymmetrical factorial experiments, fractional replication, split plot design, balanced and partially balanced incomplete block
designs without and with recovery of interblock information and lattice designs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
STAT 8107|Mínimum Grade of B-|May not be taken concurrently.

STAT 9108. Multivariate Analysis II. 3 Credit Hours.
A study of specialized topics in multivariate analysis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(STAT 8002|Mínimum Grade of B-|May not be taken concurrently)
AND (STAT 8108|Mínimum Grade of B-|May not be taken concurrently)

STAT 9114. Survival Analysis II. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
STAT 8114|Mínimum Grade of B-|May not be taken concurrently.

STAT 9116. Statistical Genetics: An Advanced Graduate Course. 3 Credit Hours.
An advanced level graduate course in statistical genetics covering the basic concepts of allele, gene, genotype, phenotype, Hardy-Weinberg equilibrium,
linkage analysis, QTL mapping using marker analysis, functional mapping for longitudinal traits, analysis of ultra-high dimensional data, genome-wide
association studies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(STAT 8001|Mínimum Grade of B|May not be taken concurrently)
AND (STAT 8002|Mínimum Grade of B|May not be taken concurrently)
AND (STAT 8003|Mínimum Grade of B|May not be taken concurrently)
AND (STAT 8004|Mínimum Grade of B|May not be taken concurrently)

STAT 9180. Seminar in New Topics in Statistics. 3 Credit Hours.
Special topics in Statistics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

STAT 9183. Directed Study in Statistics. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

STAT 9190. Seminar in New Topics in Statistics. 3 Credit Hours.
Special topics in Statistics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
STAT 9994. Preliminary Examination Preparation. 1 Credit Hour.
Preparation for preliminary examinations.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

STAT 9998. Pre-Dissertation Research. 1 Credit Hour.
Proposal design. Registration required until approved proposal is on file at the Graduate School.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

STAT 9999. Dissertation Research. 1 to 12 Credit Hour.
For students elevated to candidacy and doing their dissertation research. Registration required until successful defense and graduation.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Student Attribute Restrictions:** Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

**Repeatability:** This course may be repeated for additional credit.

### Strategic Communication (STRC)

#### Courses

STRC 8102. Legal Issues in Communication Management. 3 Credit Hours.
Grounding in legal issues that bear on communication: governmental regulation of speech; deceptive advertising; product liability class action; defamation and commercial speech; publicity and privacy; trademarks, patents, trade secrets, and copyrights; obscenity and indecency; journalistic privilege, free press, fair trial, and access to information. Note: Core course.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

STRC 8800. Spec Topics in Comm Mgmt. 1 to 3 Credit Hour.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

STRC 8985. Teach in Higher Ed:Comm. 3 Credit Hours.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

STRC 9001. Crisis Communication and Issue Management. 3 Credit Hours.
This course examines a wide range of issues and crises, including natural and man-made disasters, defective products, executive malfeasance, and activism. It focuses on managing issues before they become crises, mediating conflict with various publics, putting together a crisis plan, dealing with the unexpected during a crisis, and rectifying long-term effects of crises.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

STRC 9004. Government Relations and Lobbying. 3 Credit Hours.
This course examines the government relations and lobbying functions within non-profit and publicly traded organizations, including corporations, special interest groups, and other organizations. It covers the history of lobbying, different types of lobbying and lobbyists, the role of lobbying within a democratic government, and building a career in government relations. This is a hands-on course; student projects include lobbying a state or federal issue.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.
STRC 9054. Directed Readings in Communication. 1 to 4 Credit Hour.
Independent study. A specific faculty member must agree to serve as supervisor before the student registers. Special form needed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

STRC 9101. Capstone Project in Communication Management. 3 Credit Hours.
In-depth, original analysis of a professional issue in communication management. Required of all MS students in their final semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Strategic Management (SGM)

Courses
SGM 5001. Mng New & Small Enterprs. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5002. Business Plan Developmnt. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5051. Business Strategy in a Global Environment. 3 Credit Hours.
This course is designed to present international strategic management concepts and the field of global industry competitive analysis. This seminar combines multiple attributes and analytical frameworks of strategic management to assess an industry and the relevant competitor strategies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Business Admin.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may not be repeated for additional credits.

SGM 5052. Analytical Foundations of Strategy. 1.5 Credit Hour.
This course is designed to [a] introduce students to core concepts and analytical tools to facilitate strategic decision making in a setting of uncertainty; [b] assess the importance of the external environment (industry, location) in the development of firm strategies and sustainable competitive advantage; [c] examine the responses of competitors, customers and suppliers to a firm’s strategic actions (prices, costs, scope of the market, innovations) and the implications of these responses for firm strategy and performance; [d] clarify the relationship between firm performance and the activities within the value chain, using relative cost analysis and value added analysis; [e] evaluate the domestic and international diversification strategy of firms, including the impact of institutions such as ownership structure on firm performance and cross border valuation. The course will rely heavily on theory, quantitative analysis, and case analysis to develop cutting edge skills for critical analysis in a real world consulting environment.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Business Admin.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(STAT 5001|Minimum Grade of B-|May be taken concurrently)
AND (ECON 5001|Minimum Grade of B-|May be taken concurrently)
OR BA 5001|Minimum Grade of B-|May be taken concurrently)
AND (FIN 5001|Minimum Grade of B-|May be taken concurrently)
SGM 5101. Foundations of Strategic Management. 3 Credit Hours.
Conceptual and operational models of strategic planning examined in detail. Emphasis is on strategy formulation, implementation, and control of organizations of all types.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ACCT 5001|Minimum Grade of B-|May not be taken concurrently
AND ECON 5001|Minimum Grade of B-|May not be taken concurrently
AND FIN 5001|Minimum Grade of B-|May not be taken concurrently
AND MIS 5001|Minimum Grade of B-|May not be taken concurrently
AND MKTG 5001|Minimum Grade of B-|May not be taken concurrently
AND MSOM 5001|Minimum Grade of B-|May not be taken concurrently
AND STAT 5001|Minimum Grade of B-|May not be taken concurrently)

SGM 5102. Strategic Decision Support Systems. 3 Credit Hours.
Students are exposed to state-of-the-art, PC based decision techniques and approaches for addressing strategic (or unstructured) issues confronting an organization. Skills are developed in structuring complex, strategic decision problems and in the selection and application of appropriate techniques for reaching realistic decisions. Complex, judgmental problems are considered for a variety of organization types, business and non-business. All students perform a team project in strategic analysis using an advanced expert system. No prior computer knowledge is required.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ACCT 5001|Minimum Grade of B-|May not be taken concurrently
AND ECON 5001|Minimum Grade of B-|May not be taken concurrently
AND FIN 5001|Minimum Grade of B-|May not be taken concurrently
AND MIS 5001|Minimum Grade of B-|May not be taken concurrently
AND MKTG 5001|Minimum Grade of B-|May not be taken concurrently
AND MSOM 5001|Minimum Grade of B-|May not be taken concurrently
AND STAT 5001|Minimum Grade of B-|May not be taken concurrently)

SGM 5103. Management of Technology and Innovation. 3 Credit Hours.
This course is designed to give students insights into the technological, customer, and management issues that must be considered when developing new products or technologies. This course offers students the chance to understand and apply a number of analytical, decision making, management, and planning tools that can be used to guide the development of new products (and services) from idea to the marketplace (invoice). It is relevant to students who would like to more systematically manage and execute their own innovative ideas as well as those that wish to lead new venture, new product development, and research and development processes and groups. The course will prepare students to take the certification exam for the Product Development Management Association (PDMA) New Product Development Professional (NPDP) Certification.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5104. Management of Growth, Decline and Turnaround. 3 Credit Hours.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ACCT 5001|Minimum Grade of B-|May not be taken concurrently
AND ECON 5001|Minimum Grade of B-|May not be taken concurrently
AND FIN 5001|Minimum Grade of B-|May not be taken concurrently
AND MIS 5001|Minimum Grade of B-|May not be taken concurrently
AND MKTG 5001|Minimum Grade of B-|May not be taken concurrently
AND MSOM 5001|Minimum Grade of B-|May not be taken concurrently
AND STAT 5001|Minimum Grade of B-|May not be taken concurrently)
SGM 5105. Industry Competitive Analysis. 3 Credit Hours.
An applied examination of recently developed techniques for assessing industry competitive forces and devising appropriate business strategies. Topics include: analysis of industry trends, recognizing types of industries, developing strategic maps of industry competitors, and learning to utilize industry information sources, among others. Students will be required to conduct an in-depth analysis of at least one industry.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ACCT 5001|Minimum Grade of B-|May not be taken concurrently
AND ECON 5001|Minimum Grade of B-|May not be taken concurrently
AND FIN 5001|Minimum Grade of B-|May not be taken concurrently
AND MIS 5001|Minimum Grade of B-|May not be taken concurrently
AND MKTG 5001|Minimum Grade of B-|May not be taken concurrently
AND MSOM 5001|Minimum Grade of B-|May not be taken concurrently
AND STAT 5001|Minimum Grade of B-|May not be taken concurrently)

SGM 5106. E-Commerce Strategy. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5107. Management of Mergers and Acquisitions. 3 Credit Hours.
Examines managerial aspects of growth through mergers and acquisitions. Examines pre-merger analysis, strategies for negotiation and bidding, as well as post-merger integration of target firms. Utilizes several techniques valuable for acquisition analysis, including financial valuation techniques and industry analysis. Case studies develop students’ analytical skills.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5108. New Venture Creation. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ACCT 5001|Minimum Grade of B-|May not be taken concurrently
AND ECON 5001|Minimum Grade of B-|May not be taken concurrently
AND FIN 5001|Minimum Grade of B-|May not be taken concurrently
AND MIS 5001|Minimum Grade of B-|May not be taken concurrently
AND MKTG 5001|Minimum Grade of B-|May not be taken concurrently
AND MSOM 5001|Minimum Grade of B-|May not be taken concurrently
AND STAT 5001|Minimum Grade of B-|May not be taken concurrently)

SGM 5111. Growing Through Mergers & Acquisitions. 1.5 Credit Hour.
Mergers and Acquisitions (M&As) are two key avenues for rapid growth or consolidation, especially when organic growth through R&D, corporate venturing or market development will not suffice. However, research and anecdotal evidence abound that anywhere from 50% to 80% of M&As fail, and end up compromising the competitiveness of even strong firms. This module will answer the following questions: (1) When should M&As be the preferred modes for growth? (2) How should managers identify and evaluate targets realistically? (3) How should the M&A deal be structured and what are the implications for respective shareholders and the combined entity? (4) How can executives anticipate and address the strategic and behavioral challenges of integrating the two parties such that growth objectives are realized? In doing so, this module aims to offer a “soup-to-nuts” overview of the strategic, financial and legal (though, to a lesser extent than a typical finance or law school course), and organizational integration challenges in undertaking M&As.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
SGM 5112. Competing on Value: Analyzing and Shaping Your Industry. 1.5 Credit Hour.

Value is the essence of strategy. For every position that a firm takes in the industry, the firm creates, adds or destroys value. This course provides the knowledge and perspectives necessary to do an in-depth analysis of various industries and in learning to compete on value and to position their firms within the industry in which they chose to compete. The positioning has implications for resources, core competencies of the firm, its competitive advantage, and performance of the firm. Key questions raised and answered in the module include: How do firms create or add value? How do firms compete on value in slow moving vs. fast moving industries. How does the value frontier evolve and transform the competitive landscapes? Does order of entry matter? When and Why? How are industries created? How to compete on value in Internet-based and networked industries? How to compete on value in science-based industries?

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5113. Strategy Implementation: Designing Organizations for Success. 1.5 Credit Hour.

"Execution is the great unaddressed issue in the business world today. Its absence is the biggest single obstacle to success and the cause of most of the disappointments that are mistakenly attributed to other causes." That according to a well respected consultant. This module attempts to fill the gap between "saying and doing" that is often seen in organizations. Strategy implementation is operations-oriented. Implementation excellence is both absolutely essential and capable of providing enormous rewards. By learning to bridge the gap between saying and doing and by focusing on the activities that really determine the success or failure of the organization, students appreciate the nature of the work they do. Key questions raised and answered in the module include: How does strategy really work in organizations? How to achieve a good fit between strategy and organization structure? How to align strategy and organization systems? What is the role of organization culture in strategy implementation? How to initiate and complete changes in strategy? What are the roles of CEO, top management teams and board of directors in strategy implementation?

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5114. Managing Strategic Alliances: Competing through Collaborations. 1.5 Credit Hour.

Strategic partnerships are formal arrangements between firms that involve significant levels of shared resources and decision-making. In the current context, these inter-firm collaborations, some of which span international boundaries, have become fundamental to competitive advantage. However, alliances are notoriously difficult to manage with failure rates reaching over 70%. The course covers both analysis and design of strategic partnerships, as well as their management and implementation. Various forms of strategic partnerships covered in this course are outsourcing agreements, minority equity investments, equity alliances, and joint ventures. The course will provide concepts, tools and frameworks necessary to develop an organizational capability to manage strategic partnerships; to assist clients with partner selection, deal making and due diligence; decide when a firm should choose internal development over external partnerships; understand the role of corporate venturing in a firm's alliance strategy; and learn how partnerships with the citizen sector can help scale new growth initiatives.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5115. Firms in Crisis: Managing Turnaround. 1.5 Credit Hour.

In the life cycle of firms, growth invariably is followed by decline and, possibly, turnarounds. As Jim Collins, the author of "Good to Great" noted, less than 15% of the firms that appeared in the first Fortune 500 list published in 1955 still made the list in 2008. Decline may set in due to "irrational exuberance" during the growth phase, when management challenges and missteps may be masked by superior performance in the short term. Decline also may be caused by external shocks, usually unanticipated changes in the firm's markets and environment. Whatever the causes of decline, it results in liquidity and legitimacy crises and, if not aggressively managed, can lead to failure. Failure, though, does not always mean liquidation. Firms that file for Chapter 11 bankruptcy face the challenge of developing a plan to turn the company around. A number of firms successfully emerge as viable concerns from Chapter 11; others do not. Accordingly, this module will answer the following questions: (1) How can managers recognize the early warning signs and root causes of decline, and take action before crisis sets in? (2) Once decline has begun, how can they take charge and turn around the firm setting it on a course to survival (in the short term) and rejuvenation (in the long-term)?

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
SGM 5116. Non-Profit Governance: Preparing to Sit on a Board of Directors. 3 Credit Hours.
Participation on a nonprofit board is a rite of passage for business leaders. It provides a rich opportunity to study governance, risk management, and leadership development at a strategic level. It also offers rich professional development opportunities and the satisfaction of sharing professional skills with mission-driven organizations. Through active involvement with the board of a nonprofit organization, enriched by a management project for the organization, students will consolidate their MBA skills while exploring issues related to governance, risk management, impact measures and executive development and motivation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5117. New Venture Creation: Entrepreneurial Opportunities, Resources, and Teams. 1.5 Credit Hour.
Whether students are aspiring entrepreneurs bent on launching new businesses or managers bent on growing profitable businesses, the module seeks students to “think big” and “think outside the box”. The central focus of the module is on two key success factors: the entrepreneur; and his/her ability to create and recognize opportunities. It examines the concepts, skills and know-how, information, attitudes and alternatives that are relevant for entrepreneurs engaged in start-up and early-stage ventures, managers of new ventures within established organizations, and the relevant stakeholders. Key questions raised and answered in the module include: What are the key aspects of new venture creation process? How to evaluate an opportunity? How do new ventures achieve growth? What are the key elements of deal structure? How to structure a deal? What are the strategies for harvesting new ventures? What are the unique properties of entrepreneurs and their teams?

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5118. Innovation-Based Strategy: Managing Disruptive Change. 1 to 3 Credit Hour.
This course discusses the basics every manager needs to organize successful technology-driven innovation in both entrepreneurial and established firms. We start by examining innovation-based strategies as a source of competitive advantage and then examine how to build and design organizations that excel at innovations. Major topics include understanding how disruptive innovations impact existing markets; how organizations can embrace disruptive innovations; creating an organizational environment that rewards innovation; organizing to take advantage of internal and external sources of innovation; and designing structures to reduce resistance to change. Many of the examples also focus on how established firms can become more entrepreneurial in their approach to innovation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5119. Social Entrepreneurship: Change the World, Profitably. 1.5 Credit Hour.
Social entrepreneurship combines the energy, discipline and innovativeness of private enterprise with the inclusiveness and farsightedness of public enterprise to solve pressing social, environmental and economic problems. Social entrepreneurship sounds wonderful - but how does it play out in reality? And what does it take to manage multiple bottom lines effectively? Through extensive readings, vigorous discussion with classmates and guest speakers, and action research, we will explore the promise and perils of social entrepreneurship as lever for improving the world - and use our experience with social entrepreneurship as a lens through which to understand business and strategy.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5121. Emerging Market Innovation: Reinventing the Multinational Firm. 1 to 3 Credit Hour.
This course is a deep dive into exploring some of the common management challenges and business opportunities in emerging markets. Operating at the intersection of emerging market strategy, innovation and sustainability, this cutting-edge course will explore two key dimensions of managing in emerging markets: One, how emerging markets are forcing firms to take a long hard look at their existing practices and business models due to the need to address inclusive growth objectives; and two, how by doing so, these companies are laying the foundation for the next generation of competitive advantage. This is a must have course for students interested in emerging markets, international business, global marketing, innovation, sustainability and in understanding how doing good can be blended with doing well.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
SGM 5122. Business Model Innovation: Profitable and High-Impact by Design. 1.5 Credit Hour.

Business models describe how an organization creates, delivers, and captures value in economic, social, cultural or other contexts. This course will present the defining characteristics of a business model, the most common types of business models (e.g. subscription, brick-and-mortar, click-and-mortar, razor-and-blades, free, freemium, open, long tail, etc.), and help students learn to assess the viability of an organization through a business model lens. We will then learn how to generate, evaluate, and improve novel business models. We will use the business model canvas methodology as well as rely on the strategic revolution/blue ocean strategy approaches to generate rule-breaking business models. Innovative and original business models have the potential to create new competitive spaces as well as reinvent stagnant or declining industries. Our discussion of business models will also include special attention to issues such as the international context of a business, the hybrid nature (economic and social values) of certain businesses, as well as implementation challenges. The course will use a combination of case studies and hands-on practical exercises in order to develop your creative and critical thinking.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5123. Corporate Strategy: Managing Diversified Firms. 1.5 Credit Hour.

Much of industrial activity is carried out by large companies which compete simultaneously in multiple markets (product, location, business). In 2012, the largest 500 publicly traded companies sold approximately 11 trillion worth of goods and services or approximately 75% of the output of all U.S. public companies. On average these firms engaged in over 10 different lines of business. Hence it is likely that most people will at some point work for, advise or compete against a multi-product, multi-location, multi-business corporation. This course will broadly examine topics such as: why do multi-product, multi-location, multi-business firms exist? How do they create value? What determines firm boundaries? How are these businesses managed?

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5124. Creative Problem Solving: Perspectives & Techniques that Improve Creativity in Organizations & Life. 1.5 Credit Hour.

Being creative is about solving problems or approaching opportunities in novel and valuable ways. This course is designed to help ALL students better harness their full creative potential—whether you think: “I am not creative” or “I already have more ideas than I can handle”, this class will help you come up with more creative ideas that offer more value and have greater impact on the world. Students in this course will shift both their perspective and their behaviors as they learn about the psychological and sociological underpinnings of creativity while applying practical creativity techniques to real-world challenges during class. This course is designed to complement design thinking/inquiry courses offered at Fox and Temple and delves deeper into critical creativity topics like problem formulation, divergent thinking techniques, idea evaluation and convergent thinking, evolving ideas to increase impact and feasibility, and championing your ideas to find acceptance. No matter what career or profession you are going into, being more creative and appreciating how group and organizational environments can foster creativity will help you to be more valuable, employable, innovative, and entrepreneurial.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5125. Financing Entrepreneurial and Corporate Ventures. 1.5 Credit Hour.

The ecosystem of startups is changing rapidly, presenting new opportunities and challenges for entrepreneurs and early employees as well as for established corporations seeking fresh entrepreneurial ideas. Against this dynamic backdrop, financing and growing a new venture—as an entrepreneur launching a startup or as a company cultivating entrepreneurial opportunities—requires distinctive knowledge and a skill set that integrates strategic, operational, and financial tools. The goal of this course is to apply the analytical skills and functional knowledge developed in the core curriculum to the opportunities and challenges of emerging business opportunities. This course demands synthesis of strategic and financial analysis in the context of real time applications in a diversity of industry settings, including social media and data analytics, information technology, life sciences, and healthcare and a range of equity and non-equity financing options. One of the biggest hurdles for entrepreneurs is financing their ideas—although securing funding is always difficult, this course helps you appreciate multiple options and implications for each. A special focus will be paid to the investment decision from the perspective of various investors and the entrepreneur, and students will gain insights into factors that influence the viability and financial health of a business as well as the steps that can be taken to increase venture valuation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
SGM 5126. Innovation Adoption and Diffusion: Finding First Customers and Driving Widespread Implementation. 1.5 Credit Hour.
The difference between a creative idea and an innovation is that an innovation is put into practice or implemented. However, it turns out that the implementation of innovations is actually quite difficult and has exceptionally high failure rates. This course builds on the theoretical foundations of innovation characteristics, adoption, and diffusion as well as behavioral economics while providing concrete, practical advice and techniques for successfully implementing innovative ideas. It is designed to help entrepreneurs and innovators appreciate barriers to adoption, identify and convert first users, and ultimately, drive change and innovation through networks—whether these are customer groups, organizations, or the public at large. Change can be economically and psychologically costly—whether it involves the adoption of a novel product/service or business model by a user, a new process by members of an organization, or simply a new point of view by a person. However, there are ways in which innovations can be positioned to reduce these costs or barriers and techniques by which early adopters can be leveraged to rapidly diffuse these novelties through networks. These skills are what allow individuals to turn a creative idea into an innovation and an innovation into a competitive advantage.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5127. Managing Knowledge Networks: Understanding & Analyzing Social Networks in Organizations & Beyond. 1.5 Credit Hour.
We all know that it is not WHAT you know but WHO you know that matters most. But this truism is even more relevant as we move into a knowledge-based economy. Most significant innovations are the result of a collaborative endeavor between individuals, groups, and organizations. Thus, understanding social networks can be particularly useful in assessing how information and knowledge flow both within and across specific units or organizations. This course is designed to provide an introduction to how social network analysis can shed light on problems of collaboration and connectivity in organizations and can provide managers a more effective and strategic way to address these problems. The course will teach students about the importance of knowledge in organizations and cover basic social network analytical methods. These techniques can systematically reveal how collaboration, innovation, and learning are occurring—or not occurring—in informal networks. We will then discuss practical ways for managers to improve networks by looking at individual employees and their positions within a network.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5128. The Crowd, The Cloud, and Open Innovation Strategy. 1.5 Credit Hour.
Unbridled advances in technology and connectedness have transformed the relationship between companies, customers, and competitors. With this transformation, the lines between business relationships, social connections, and competitive advantage are increasingly connected to one another. Thus companies across all industries and size classes—from established industry giants to high-growth companies in new technology areas—require the skills and knowledge to strategically harness the power of "the crowd and the cloud". This course addresses the distinct challenges and opportunities posed by the confluence of digital community, powerful and expanding data gathering and analytics, and the intertwining of technological change and business models. This course is relevant for students seeking to expand their skills in harnessing insights from real-time change for the development of powerful and adaptable decision-making and innovation. This class will draw upon current topics including: the crowdsourcing of innovation in established firms and new entrants; the use of technological connectedness and social media strategies in developing innovative user communities; the challenges and opportunities of co-creation; and the emergence of crowd-based funding as a financial tool for launching new projects. The course relies on case analysis and class discussions focused on applying analytical skills to challenges and opportunities in current contexts.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5131. Social Entrepreneurship. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5132. Sustainable Business Practices. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5133. Management Consulting: Principles and Practices. 3 Credit Hours.
Whether your goal as a management consultant is to join a dedicated firm, operate in-house, or launch your own practice, the factors for success are similar. This course focuses on the skills (hard and soft), methods, and practices of successful consultants. Consulting is highly practical; therefore, the course includes many practical exercises with content from experts in the field. Research projects and project simulations will be evaluated by senior practitioners from industry, including the course instructor. A personal assessment and individual development plan will help you identify and map the best path to a career in consulting. [Note: This course would also benefit aspiring entrepreneurs and students preparing for the capstone.]

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
SGM 5134. Engagement Management. 3 Credit Hours.
In management consulting, project management and change management are two sides of the same coin. This course presents both the tools and practices successful consultants use to manage both the process and the people. The engagement management component of the course focuses on three critical activities: 1) From RFP to scope to exit interview, managing the client, 2) Project planning across the boundaries that divide consultant and client, and 3) How to analyze, manage and report upon the financial components of a project, including project ROI. The second half of the course addresses the need for leaders to manage employees and other key stakeholders through transformational change, and the role the consultant plays in this process. By understanding the challenges of managing people through complex change, as well as the methodologies, tools and proven approaches of successful consultants, students can ensure enterprise-wide understanding, buy-in and collaboration throughout the transformation process.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5135. Innovation Intelligence: Plan, Build, Protect, and Monetize a Technology / Innovation Portfolio. 3 Credit Hours.
Almost all firms want to be more innovative, however, few succeed at profiting from their innovations. Furthermore, some of the most interesting technological inventions are commercial failures. This course trains students in approaches to strategically manage an innovation or technology-focused organization or consultancy. Developing ‘intelligence’ in a domain requires accessing relevant information, analyzing it using appropriate approaches, and making informed strategic decisions based on your analysis. This course will demonstrate a number of tools and perspectives that are critical to strategically plan, coordinate, and make decisions relevant to innovation, research and development (R&D), and technology or new product development. You will learn to systematically assess R&D / technology trends and risks, scout for development opportunities, identify technology and product leaders and uncover their strategies, protect and leverage your portfolio of innovations/technologies, and build a coherent innovation plan that aligns with your organization’s strategy.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5136. Principles of Strategy and Management. 3 Credit Hours.
Whether you are interested in being a high-performing employee, a manager within an organization, an innovator, or a successful entrepreneur, understanding the core business principles of strategy and management is critical to helping you achieve your goals. This course will provide an overview of traditional as well as cutting-edge, innovation-focused perspectives and tools including: industry and stakeholder analysis, competitive advantage, business models, profitability, organizational design, and the evolving roles of managers and leaders. This is an introductory course for anyone without formal business training or education. It is utilized as an introductory course in a number of certificates and masters programs and can help individuals considering whether or not a Fox graduate degree is interesting or appropriate for them. NOTE: Not open to MBA students but available to all other majors / all schools and colleges.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Degree Restrictions: May not be enrolled in one of the following Degrees: Master of Business Admin.

Repeatability: This course may not be repeated for additional credits.

SGM 5137. Entrepreneurial Thinking and New Venture Creation. 3 Credit Hours.
Whether students are aspiring entrepreneurs bent on launching new businesses or managers bent on growing profitable businesses, the module seeks students to “think big” and “think out of the box”. The central focus of the module is on two key success factors: the entrepreneur; and his/her ability to create and recognize opportunities. It examines the concepts, skills and know-how, information, attitudes and alternatives that are relevant for entrepreneurs engaged in start-up and early-stake ventures, managers of new ventures within established organizations, and the relevant stakeholders. Key questions raised and answered in the module include: What are the key aspects of new venture creation process? Where can you look for new opportunities? How do you evaluate an opportunity? How do you generate, evaluate, and evolve your ideas? How do new ventures achieve growth? What are the key elements of deal structure? How should you structure a deal? What are the strategies for harvesting new ventures? What are the unique properties of entrepreneurs and their teams?

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
SGM 5138. Global Innovation Strategy: Creating Agile, Innovative, Globally-Competitive Organizations. 3 Credit Hours.

This course discusses innovation-based strategies as a source of competitive advantage as well as how to build and design agile / adaptive organizations that excel at innovation. Major topics include understanding how disruptive innovations impact industries, designing an organization that encourages innovation and embraces change, balancing performance and innovation demands, and organizing to take advantage of various sources of innovation. In addition, students will be exposed to a number of cutting-edge topics relevant to next-generation strategy: global R&D and emerging market innovation, organizational learning and knowledge management, and open innovation approaches that engage both your customer base as well as your value system to innovate and create unparalleled value.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5139. Lean Entrepreneurship / Innovation: Fast & Frugal Methods to Launch Startups & Test Innovative Ideas. 3 Credit Hours.

The Lean Startup or Lean Launchpad methodology has transformed the way that entrepreneurship is taught and practiced and has even changed how the most innovative organizations in the world invent new products and services or reinvent themselves via innovation. In this experiential, hands-on course students will learn the 'customer-development' approach that serves as a counterpoint to traditional 'product development' undertaken in most organizations. Students will be immersed in the iterative (build-measure-learn) process and will learn how to accelerate the process via creative approaches to designing minimum-viable products, prototypes, and experiments. Furthermore, they will learn how to more systematically identify and test assumptions so that they can make decisions to pivot, proceed, or restart based on customer insights and evidence gathered.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5142. Business Model Innovation. 3 Credit Hours.

A business model describes how an organization creates and captures value - a business model is like the DNA of an organization. Business model tools and perspectives have recently advanced at a dramatic pace and business model innovations are one of the most significant sources of industry disruption. This course uses the business model canvas methodology as well as the strategic revolution/blue ocean strategy approaches to generate rule-breaking business models. In addition, building on this business model foundation, we will explore theories of innovation characteristics, adoption, and diffusion to provide practical advice and techniques for finding first customers, implementing innovative ideas, and driving acceptance by modifying your products, services, and business model.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5144. Creativity Unleashed: Harnessing Creativity to Solve Real-World Innovation Challenges. 3 Credit Hours.

We all face an innovation imperative - innovate or die. Innovation fuels our ability to be competitive - both on a corporate level and on a personal one. However, innovation remains elusive to many organizations and individuals. Students in this course will shift both their perspective and their behaviors as they learn a set of creativity tools that they will apply to real-world innovation challenges during class. This course delves deep into critical creativity topics like problem formulation, divergent thinking techniques, idea evaluation and convergent thinking, evolving ideas to increase impact and feasibility, and championing your ideas to find acceptance. No matter what career or profession you are going into, being familiar with creative approaches and techniques will help you to be more valuable, employable, innovative, and entrepreneurial. Developing your competencies in this area might be one of the most important investments you can make in yourself. Creativity has become one of the most sought after characteristics of employees and managers and is an important predictor of executive success. Creativity is not simply something you have, it is something that you can develop.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5145. Plan, Pitch, and Fund an Entrepreneurial Start-Up. 3 Credit Hours.

For many entrepreneurs securing funding is the most challenging phase of the entrepreneurial process. Although more options than ever before are available for early stage funding, a substantial portion of the entrepreneurial funding landscape involves appealing to potential investors. Increasingly accelerator programs, incubators, and a number of other key players in the entrepreneurial ecosystem are using the same criteria as angel and venture capital investors for selecting investment-worthy ventures. This course focuses on positioning and presenting your venture or concept such that it has the greatest chance to be funded. Your 'pitch' or investor presentation is a critical phase in the entrepreneurial process, and you should not underestimate how important it is to the success or failure of your company. The investor presentation is unlike any other business presentation you've done: investors are a most demanding and impatient audience. It's a fact that many companies that truly deserve to be funded don't get funded because they can't communicate what they have well enough to engage investors.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
SGM 5148. Open Innovation and Managing Strategic Alliances. 3 Credit Hours.
It is said that competition is no longer company-vs-company but business ecosystem against business ecosystem. Unbridled advances in technology, connectedness, globalization, and fragmentation of value chains across industries have transformed the relationship between companies, customers, partners, and competitors. Increasingly the knowledge and specialization required by firms to produce new products, gain new resources including strategic intelligence, and to place bets across nascent markets resides outside of firms' boundaries. To be successful in this context, firms - from established industry giants to entrepreneurial new ventures - must build comprehensive open innovation strategies that engage and mobilize external stakeholders to productive and innovative ends. This course addresses the distinct challenges and opportunities posed by the confluence of digital community (i.e. "the crowd"), powerful and expanding data gathering and analytics, and the ambiguous boundaries of successful modern firms.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5170. Special Topics. 1 to 6 Credit Hour.
Special topics in Strategic Management.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

Repeatability: This course may be repeated for additional credit.

SGM 5180. Special Topics in SGM. 1 to 6 Credit Hour.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SGM 5182. Independent Study. 1 to 6 Credit Hour.
Only available to MBA/MS students. Course provides an opportunity for students to explore the creation of an idea for a new eBusiness, as well the planning and research involved in moving from the idea stage to the startup stage. This course involves preparation of a business plan on the new eBusiness idea. In addition, this course provides students with an on-going platform to develop and integrate concepts presented in previous and concurrent seminars. Prior to taking this course, students will be exposed to an entrepreneurship module in the Fall semester. This module is designed to provide students with an opportunity to present preliminary ideas for a new eBusiness endeavor to be expanded on during this course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SGM 5187. Future Franklins: Assessing the Feasibility of Innovative Business Ideas. 1.5 Credit Hour.
Benjamin Franklin was one of the Founding Fathers of the United States but he was also an inventor and entrepreneur. Among other things he founded his own printing company, created the concept of the mail order catalogue, invented the bifocals and the lightning rod, was instrumental in forming both the first public library and first fire department, and is credited with coining the saying “do well by doing good.” This course will help you find your inner Franklin as you explore a number of potentially viable business models in order to write a feasibility plan for an innovative new idea. Based on our partnership with the Technology Commercialization office, students will have access to a portfolio of Temple's patented, high-potential technology for their projects or they will have the option to work on their own ideas or technologies. Whether you want to start a new high-growth venture, explore a new business model within an existing company, or be a social entrepreneur this course will help you make this a reality.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SGM 5190. Special Topics: General & Strategic Management. 1 to 6 Credit Hour.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SGM 5282. Independent Study. 1 to 3 Credit Hour.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
SGM 5301. Competitive Strategy. 1.5 to 3 Credit Hour.
The purpose of this course is to build on the concepts introduced in the Foundations of Strategy course and apply them to more advanced applications in a global setting. Using industry structure, strategic profile and complex competitor interaction concepts, students are asked to apply these concepts in a two part simulation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Co-requisites: BA 5301.
Repeatability: This course may not be repeated for additional credits.
Pre-requisites:
(FIN 5301|Minimum Grade of B-|May be taken concurrently)
AND (ACCT 5301|Minimum Grade of B-|May be taken concurrently)

SGM 5302. Strategy in a Global Context. 1.5 Credit Hour.
SGM 5302 is designed to focus on key aspects of globalization, including different cultural, political, economic, and legal systems found in the world and analyze the implications of these differences for business. The course will also examine development of strategies in an increasingly innovation-driven, knowledge-based economy, designing organizational structures (including alliances and networks), and managing operations of companies whose activities stretch across national boundaries.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may not be repeated for additional credits.

SGM 5401. Competitive Strategy. 1.5 Credit Hour.
The purpose of this course is to build on the concepts introduced in the Foundations of Strategy course and apply them to more advanced applications in a global setting. Using industry structure, strategic profile and complex competitor interaction concepts, students are asked to apply these concepts in a two part simulation.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Co-requisites: BA 5401.
Repeatability: This course may not be repeated for additional credits.
Pre-requisites:
(FIN 5401|Minimum Grade of B-|May be taken concurrently)
AND (ACCT 5401|Minimum Grade of B-|May be taken concurrently)

SGM 5402. Strategy in a Global Context. 1.5 Credit Hour.
SGM 5402 is designed to focus on key aspects of globalization, including different cultural, political, economic, and legal systems found in the world and analyze the implications of these differences for business. The course will also examine development of strategies in an increasingly innovation-driven, knowledge-based economy, designing organizational structures (including alliances and networks), and managing operations of companies whose activities stretch across national boundaries.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.
Repeatability: This course may not be repeated for additional credits.

SGM 5501. International Management. 3 Credit Hours.
Operating policies and procedures; organization, administrative, and operational problems of multinational companies. Required for majors in International Business Administration.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
SGM 5701. Project in Consulting. 3 Credit Hours.
Develops problem solving and consulting skills as students work in 3-4 person teams on strategic problems for small, medium-sized and large international corporations in the Philadelphia area. An attempt is made to match up student interests with appropriate projects. Formal presentations are made to executives of participating companies. Note: Enrollment is limited to students in the IMBA program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5702. Multinational Strategic Management. 3 Credit Hours.
Conceptual and operational models of strategic planning examined in detail. Emphasis is on strategy formulation, implementation, and control of organizations of all types. An applied examination of recently developed techniques for assessing industry competitive forces and devising appropriate business strategies. Topics include: analysis of industry trends, recognizing types of industries, developing strategic maps of industry competitors, and learning to utilize industry information sources, among others. Students will be required to conduct an in-depth analysis of at least one industry.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5801. Contemporary Corporate Strategy. 3 Credit Hours.
In this course, you'll increase your grasp of strategic management concepts as they relate to for-profit, not-for-profit and professional organizations. You'll enhance your ability to analyze an industry and develop relevant enterprise-level strategies. In particular, through several real-world case studies, you'll learn about cutting-edge developments in e-business and e-business strategies. You'll apply the concepts to organizations that you and other program participants work for or are interested in.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5882. Independent Study. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SGM 5890. Special Topics. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SGM 5901. Mng New/Small Enterprise. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 5902. Managing Bus Planning. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 9001. Seminar: Strategic Form - Environmental Analysis. 3 Credit Hours.
A critical evaluation of the paradigms, theories, and research approaches as well as the current state of knowledge in strategic management. The courses focuses specifically on the theory and current state of research in the analysis of relevant environments and the subsequent formulation of strategy within corporate entities.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 9002. Seminar: Administrative Strategic Decisions. 3 Credit Hours.
Design of systems to implement decisions. Examines concepts and theories of organizational design and processes required to transform strategic decisions into action and desired results. The current research literature in the area of organization decision making is emphasized.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
SGM 9003. Seminar: Management Control. 3 Credit Hours.
Survey of control theory and research as it relates to organizational behavior. Examines managerial practices and organizational processes which have the potential effect of achieving strategic goals.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 9090. Spec Topic Strategy. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SGM 9183. Directed Study in Mgt. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

SGM 9211. Theor Fndns in Entrepr. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

SGM 9212. Strategic Management of Technology and Innovation. 3 Credit Hours.
This doctoral seminar provides an introduction to the phenomenon of innovation from the strategic management perspective. By introducing some of the basic theories and concepts of innovation research, this seminar serves as a foundation for building our understanding of how organizations create new innovations, engage in search, design their organizations optimally, and manage change. The emphasis of the seminar is on understanding the main theories on innovation and technology strategy and synthesizing research in this area. We will also develop skills to appreciate and construct theoretically rich empirical research designs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Supervisory Certification Program (SUPV)

Courses
SUPV 5601. Assessment of Curriculum and Instruction. 3 Credit Hours.
An introduction to procedure and methods used in the evaluation of curricula and programs in school settings. This course comprises the general supervisory component and are required for most students. This course also meets the curriculum requirements for principal certification.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Teaching English to Speakers of Other Languages (TESL)

Courses
TESL 5611. Applied Language Study I: Phonology and the Lexicon. 3 Credit Hours.
The purpose of this course is to introduce current and future teachers to the structure of the English phonology and the lexicon and to familiarize them with the key principles of language teaching and diagnostic assessment in these areas. The practicum component of the course gives students an opportunity to apply this theoretical knowledge to practice and to conduct hands-on analysis of an individual learner's pronunciation and vocabulary.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
TESL 5612. Applied Language Study II: Grammar, Morphology and Classroom Discourse. 3 Credit Hours.

The purpose of the course is to introduce current and future teachers to the structure of the English grammar and to the concepts of interactional and narrative competence. The practicum component of the course gives students an opportunity to apply this theoretical knowledge to practice and to conduct hands-on analysis of an individual learner's grammar and discourse.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

TESL 5613. Multilingual Students' Literacy Development. 3 Credit Hours.

This course focuses specifically on the academic language needed for ELLs to be successful in U.S. schools. The course begins with an emphasis on foundational knowledge of language structures (i.e. English phonology, morphology and syntax) as well as a thorough review of key theories and principles in first and second language acquisition. The course also looks at the particular issues faced by students at different points in their education: elementary, middle and high school and the role of literacy in the content areas. With this, students will understand the complexities of reading and writing development in more than one language.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

TESL 5614. Current Approaches to Teaching English Language Learners. 3 Credit Hours.

The purpose of this course is to introduce students to the most current methods in teaching English as a second language and English as a foreign language. The course is a hands-on course that provides many practical strategies and ideas for how to teach an effective language lesson. Students will be offered multiple opportunities to apply and reflect upon particular approaches. Course activities include lectures, discussions, small-group activities, and poster writing. Students are expected to write multiple lesson plans and share videotapes of their teaching with their classmates. The emphasis is to start where each student is and take them to the next level of professionalism as a language teacher.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

TESL 5615. Teaching English in a Global Context. 3 Credit Hours.

This course explores language as a social form, focusing on the connections between language, culture, perception and linguistic globalization. Against a sociolinguistic backdrop, the course aims to raise students' consciousness to the political, socio-cultural and ethical aspects of the global spread of English. The topics covered will equip students with the basic, critical concepts needed to examine the pros and cons of the internationalization of English worldwide. At a practical level, students will be guided to reflect on and incorporate these concepts in their approaches to teaching English in the US and abroad. Through readings, discussions, international conversation partners, and reflection assignments, students will (re)conceptualize how English is taught as an international language, problematizing the issues related to "Standard English" and "NES/NNES dichotomy." Individually and collectively, the class will deconstruct notions of "one-size fits all" approach to teaching (i.e. English language as a standardized language) and explore pedagogies that take into consideration multiple varieties of Englishes. From start to finish, students will be encouraged to draw on their own experiences, link theory to practice, and collect resources to support their future careers.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

TESL 5616. Designing Assessment and Curriculum for Multilingual Students. 3 Credit Hours.

This course will guide you in understanding and applying principles of curriculum design and teacher-based assessment. Course readings, assignments and class discussions will guide you through thinking about how to best teach English language learners by adapting a curriculum that has been handed to you (i.e. a mandated curriculum), by building upon existing curricula in your instructional setting, or by creating a curriculum from scratch. In this course, curriculum is conceived of as an instructional process which includes planning, instructing and assessing. A foundational idea in this course is that assessment can and should be integrated into instruction. As such, you will learn how to sequence instruction in response to students' performance on a variety of authentic assessments. You will also learn approaches to environment and needs analysis and will experience how these analyses can inform teaching and curriculum design. Toward the end of the course, the Continua of Biliteracy will be used as an organizing framework that will guide you toward taking a critical stance when reflecting upon the curriculum you have created.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
TESL 5618. Second Language Development. 3 Credit Hours.
The purpose of this course is to introduce key concepts in second language acquisition (SLA) and to survey state-of-the-art findings and current debates about linguistic, neurolinguistic, cognitive, affective, and social aspects of second language learning and use. Classroom discussions focus on understanding SLA concepts on linking theories and empirical research to classroom practice. This course serves as a precursor to the Master's comprehensive exam.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

TESL 5621. Contexts for Teaching and Learning Language. 3 Credit Hours.
In this course, we explore sociocultural and political dimensions of language learning and teaching. Learning a language is not a politically neutral enterprise: Who is encouraged to learn a language and who is prevented from accessing linguistic resources are closely related to issues of power. By focusing on sociocultural, political, racial, and economic perspectives, the course emphasizes the interplay between the macro-level relations of power in society and the micro-level experiences of language learners. In other words, we are in the business of taking a critical look at why language learning is encouraged and valued in certain situations while it is discouraged and marginalized in other situations. We will draw on language learning situations both in the U.S. and in international contexts.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

TESL 5631. Foundations of Language Teaching: Meeting the Needs of English Language Learners. 3 Credit Hours.
This course offers students an introduction to theory, research and practice in teaching English language learners in the elementary, middle and secondary grades. The course begins with an overview of sociocultural characteristics of ELLs, legal responsibilities, and educational and language policies in the United States. Students will also learn the basic theories and principles associated with second language acquisition. Students will explore the philosophies of bilingual and ESL education as well as different program models that address the education of linguistically diverse students. Students will be introduced to an array of contemporary, research-based instructional approaches, including content-based instruction, task-based language teaching, and sheltered English instruction. As a result, they will gain an understanding of how to adapt standards-based lessons for English language learners. Through a practicum component, students will learn to design lessons and assessments for small-group instruction. Students will also develop cross-cultural competence through interactions with ELLs, teachers and school staff. NOTE: This course is only for students in the Post-Baccalaureate Program, the Graduate Certification Program and the ESL Certificate Program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

TESL 5687. Practicum for Teaching English Language Learners. 3 Credit Hours.
The course serves as a practicum for TESOL Masters students, and involves teaching, observation, reading, and reflection. Students will team-teach for 10 weeks with a mentor teacher in the Intensive English Language Program (IELP) at Temple and meet weekly for a seminar. Specifically, under the leadership of a current IELP teacher, a pair of practicum students attend a minimum of three IELP classes per week and provide varying levels of instructional support. For the first two/three weeks of the semester, the practicum students will shadow the IELP teacher, work with him/her in developing lesson plans and materials, and observe the classes and assist with small group activities. By the fourth week of the semester, the practicum students will team-teach two of the three IELP classes each week. This practicum is designed to provide a sheltered teaching experience, where students can apply what they have learned to a real-world teaching experience. Students will be observed four times throughout the semester by a practicum "coach". This coach will observe, evaluate, and provide useful feedback to maximize students' improvement and growth as ESL teachers.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

TESL 8625. Applied Linguistics. 3 Credit Hours.
Applied Linguistics is a 3-credit graduate-level course whose goal is to provide an overview of themes and topics in applied linguistics, to highlight current debates and controversies, and to make students more informed research consumers and better academic writers. Discussions will cover a wide range of areas where applied linguists conduct research on language, including but not limited to advertising, business, economy, education, healthcare, landscape, law, military, politics, and religion.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
TESL 8626. Second Language Writing. 3 Credit Hours.
Second Language Writing is a 3-credit graduate-level course that introduces students to the teaching and learning of Second-Language Writing through the exploration of major issues in the theory, research and pedagogy. Students will learn about the scope of Second-Language Writing as a field and engage in theoretical debates about teaching second-language writers and practical responses to these debates. Students will also investigate and reflect upon their own writing processes and products, and will also conduct an investigation of a second-language writer. The course will focus on the social nature of writing as well as the nature of writing as a cognitive process. Additional topics to be studied include revision, intercultural rhetoric, plagiarism and textual borrowing, responding to and assessing student writing, reading-writing connections, and grammar feedback. This course will help students learn how to responsibly address the needs of second language writers in ESL and EFL contexts as well as university-level and K-12 contexts.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

TESL 8634. Bilingualism and Bilingual Education. 3 Credit Hours.
Bilingualism and Bilingual Education is a 3-credit graduate-level course designed to introduce students to a range of perspectives on bilingualism and bilingual education, addressing both psycholinguistic aspects of bilingual development and sociocultural and political dimensions of educating bilingual students. Discussion topics will include: infant bilingualism; family language policy; code-switching; bilingualism and cognition; the impact of bilingualism on individuals' identity; politics of bilingual education; immersion education; heritage language maintenance; third language acquisition, and bilingualism and deaf education.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

TESL 8635. Educating English Language Learners: State of Knowledge. 3 Credit Hours.
Educating English Language Learners (ELLs) is a 3-credit graduate-level course designed to critically examine the state of knowledge on ELL education. Discussion topics will include: politics of ELL education, ELLs' oral language development, literacy development, content instruction, assessment, first language maintenance, college access and success, and use of technology in ELL education.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

TESL 8636. Assessment of English Language Learners. 3 Credit Hours.
Assessment of English Language Learners is a 3-credit course designed to cover a broad range of language assessment issues. The goal is to provide teachers of English as a second or foreign language with a basic foundation in language assessment issues; the knowledge to be able to critique language assessment instruments currently in use; and the tools to create valid classroom tests that not only reliably measure student achievement and proficiency, but also can serve to help guide instructional decisions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

TESL 8643. Research Methods in Applied Linguistics. 3 Credit Hours.
Research Methods in Applied Linguistics is a 3-credit graduate-level course designed to familiarize students with a representative array of research methods used in the field of applied linguistics. Using concrete examples, the course will introduce students to basic principles of research design and methods of data collection and analysis from a variety of perspectives. Students will also be required to design, conduct, and write up an original research study.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

TESL 8644. Current Issues in Applied Linguistics. 3 Credit Hours.
Current Issues in Applied Linguistics is a 3-credit doctoral-level seminar designed to introduce students to cutting-edge research in the fields of applied linguistics, TESOL, and second/foreign language education.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Theater (THTR)
Courses

THTR 5012. American Musical Theater. 1 to 3 Credit Hour.
To obtain advanced understanding of the history, forms and elements of American Musical Theater through study of the developments of the art form and exploration of the most enduring works of the genre.

Department Restrictions: Must be enrolled in one of the following Departments: CA:Theater.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

THTR 5121. Musical Theater Dance Techniques. 1 to 3 Credit Hour.
An intensive study of dance vocabulary, styles, and combinations utilized in auditions and performances for the professional musical theater stage. This course is designed to explore the unique principles and techniques characteristic of Theater Dance, as well as an approach to the audition process, storytelling, characterization, and self-expression through movement. This course also explores the significance and historical/cultural impact of the art form of musical theater, focusing on the choreographic element. Prior dance experience and understanding of the fundamentals of dance technique is required. Students will execute a ballet and jazz based warm-up, conditioning, technical skills, and various combinations drawing from the musical theater repertoire of the 20's through today.

Department Restrictions: Must be enrolled in one of the following Departments: CA:Theater.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

THTR 5134. Directing for the Musical Stage. 1 to 4 Credit Hour.
The focus of this class will be on advancing the student director's skill as pertains to the American Musical Theater repertoire. The course will address the myriad challenges of directing a musical work: including heightened stakes and storytelling techniques, intensified scheduling and management requirements of musical productions, and collaboration with musical directors and choreographers. Students will also apply and enhance acquired skills in script analysis, concept work, staging, working with actors and design elements by applying them to a challenging variety of material from the American Musical Theater.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

THTR 5211. Speech for the Actor I. 1 Credit Hour.
In the fall, students concentrate on developing the actor's awareness of speech and articulation patterns. They learn vocal anatomy and the fundamentals of articulation. It is the goal of this class to help the actor have command of the International Phonetic Alphabet in preparation for dialect work and to learn the Detail Model, the Standard American Speech of Edith Skinner and General American English. Through in-class coaching they apply this knowledge to the final poetry performances.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

THTR 5212. Speech for the Actor II. 2 Credit Hours.
Students learn the fundamentals of the Detail Model of phonetics and Standard American English. Through in-class monologue and scene coaching, they apply this knowledge to the performance of poems or speeches that are worked on in conjunction with Voice Class. Making use of the "Detail Model." Students are also coached on a Standard-American-dialect-verse piece which is scanned, scored for pitch, length, and emphasis, and worked using Edith Skinner's "Challengers for Actors in Classic Plays". Students are also continually quizzed on the International Phonetic Alphabet.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

THTR 5221. Acting I. 2 Credit Hours.
An immersion into the fundamentals of acting technique as influenced by the Stanislavski method. The goal is to reexamine the actors craft in order to develop an effective process for teaching acting to students in Higher Education.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
THTR 5222. Acting II. 2 Credit Hours.
Acting II is a continuation of the foundational work in Acting I with the introduction of style. The focus in the class will be on working with heightened text such as Shakespeare, the Greeks, Moliere, Restoration, Comedy of Manners, etc.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THTR 5231. Vocal Production for the Actor I. 1 to 8 Credit Hour.
Fall term will focus on self discovery, increasing sensitivity and awareness, and finding release. We will be involved in taking personal inventory. What is our vocal history? What are our patterns of use? Where do we hold tension? How is our breath and physical life supporting or inhibiting our communication? Are there psychological / emotional issues we need to address in order to feel less inhibited in exploring our sound and claiming our own authentic voice? We will evaluate and determine where our present patterns function well and where they need to be replaced with a fuller, healthier, or more efficient way of producing and supporting sound. We will introduce the Fitzmaurice system of destructuring and structuring.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

THTR 5232. Vocal Production for the Actor II. 2 to 3 Credit Hours.
Spring term will continue the work of the previous term. We will continue to explore the journey from breath to voice using a variety of exercises and approaches (including Fitzmaurice voice work). We will be exploring vocal possibilities with and without text. We will address support, balance, tension zones, groundedness, and energy flow as it translates into vocal energy (just how we extend ourselves in communication). We will explore the mind-body relationship of voco-physical experience through Laban concepts and work with chakras.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

THTR 5241. Dance for the Actor I. 1 to 8 Credit Hour.
Movement: In the fall, students are introduced to the basic principles of the Alexander Technique and begin to apply the Technique to their physical and vocal organization in simple everyday tasks. Students are introduced to kinesthetic awareness of the relationship between the head, neck, back, and pelvis, and its role in the coordination of the acting instrument. The goals of this course are to give actors greater awareness of their vocal and physical habits, to give them a psycho-physical means which they can use to live fully in the present moment, and to provide a method of working actors can use to develop a more coordinated use of their vocal and physical instruments. Dance: Modern Dance Technique, Lester Horton and Martha Graham. Actors learn a strong physical warm-up including Pilates. Actors are introduced to improvisation, isolations, and Laban work which culminates in short performance scenes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

THTR 5242. Dance for the Actor II. 2 to 3 Credit Hours.
Movement: The spring course is a continuation of TH 5241. Students learn to kinesthetically explore and intellectually understand the role of the head, spine, and pelvis in increasingly complex activities. Students explore developmental movement and begin to analyze movement patterns and relate them to basic movements covered in the 1st semester. They also continue to learn how a person’s habits of Use correlate with their understanding of how the body works. Students begin to apply the Technique to increasingly athletic activities and to performance. The goal of this class is to prepare students for the vocal and physical work of their 2nd year of training and to further develop a means of working that they can use to improve their performance both on and off the stage. Dance: Continue work with Lester Horton. Long Neck and Space combinations. Ballet technique is introduced (Baker center work and space). Period dance is introduced as well (for example, Pavanne, Morris Dance, and Galliard). Strong warm-up technique component continues. Class also addresses Physical Gesture in Shakespeare scenes, Meyerhold and Chekhov projects.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
**THTR 5261. The Job Market. 1 to 3 Credit Hour.**
This class is a study of the business of working in the theater and film at all levels and positions within the entertainment hierarchy and will allow students to understand the nature and structure of arts enterprises. It consists of discussions, paper projects, guest artists, and hands-on opportunities which examine various scenarios involving actors, designers, managers, producers, and administrators to better prepare students for the challenges of a career in the arts. It will explore early career opportunities such as internships, assistantships, fellowships, and entry level positions in the entertainment industry. The course will focus not only on establishing, but maintaining a career in the entertainment industry. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**THTR 5287. Rehearsal/Performance. 3 Credit Hours.**

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**THTR 5288. Rehearsal & Performance. 3 Credit Hours.**

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**THTR 5387. Directing Practicum I. 2 to 3 Credit Hours.**
The theory and practice of directing, focusing on short, realistic scenes. Students will study the scene as a structural unit and explore its function within the play.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**THTR 5388. Directing Practicum II. 2 to 3 Credit Hours.**
The theory and practice of directing, focused on longer scenes of various styles. Students will study the scene as it reflects the values and behaviors of the larger world of the play.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**THTR 5392. The Business of the Business in Theater. 1 to 4 Credit Hour.**
The Business of the Business in Theater analyzes various management, organization, publicity, marketing, job preparation, casting, and agency techniques and practices as they apply to professionals in the non-profit and commercial theater industries. It offers a foundation for students interested in developing, launching, or advancing innovative enterprises in theater. The course is a study of the business of working in the theater at all levels and positions within the entertainment hierarchy and allows students to understand the nature and structures of arts enterprises. It consists of paper projects, guest artists, and hands-on opportunities that examine various scenarios involving actors, designers, managers, producers, and administrators to better prepare students for the challenges of a career in the arts. It explores early career opportunities such as internships, assistantships, fellowships, and entry level positions in the entertainment industry. The course will focus not only on establishing, but maintaining a career in the entertainment industry.

**Department Restrictions:** Must be enrolled in one of the following Departments: CA: Theater.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**THTR 5487. Musical Theater Practicum I. 1 to 4 Credit Hour.**
An intensive, team-taught practicum that guides directors, composers, lyricists, and book writers to merge their unique artistic visions to create musical theater pieces. Songwriting craft, issues of communication between artists of different disciplines, and storytelling through music and text are emphasized. From character creation and script analysis to collaborating with writers, directors and music directors, students will have the full experience of working on new musical pieces, and will be encouraged to find their own voices and learn to merge their unique artistic visions with those of other collaborative artists to create exciting new work. Class participants work in rotating teams to write and present songs and scenes, exploring song form, dramatic structure, and the process of conceiving longer works.

**Department Restrictions:** Must be enrolled in one of the following Departments: CA: Theater.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.
THTR 5587. Musical Theater Practicum II. 1 to 4 Credit Hour.
This course is a continuation of Musical Theater Practicum I, an intensive, team-taught practicum that guides directors, composers, lyricists and book writers to merge their unique artistic visions to create musical theater pieces. Songwriting craft, issues of communication between artists of different disciplines, and storytelling through music and text are emphasized. From character creation and script analysis to collaborating with writers, directors and music directors, students will have the full experience of working on new musical pieces, and will be encouraged to find their own voices and learn to merge their unique artistic visions with those of other collaborative artists to create exciting new work. Class participants work in rotating teams to write and present songs and scenes, exploring song form, dramatic structure, and the process of conceiving longer works.

Department Restrictions: Must be enrolled in one of the following Departments: CA: Theater.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THTR 5613. History of Decor. 1 to 3 Credit Hour.
This is a survey course, examining the trends in architecture, furniture, and period motifs and how they can be interpreted in theatrical design. Lectures include discussions of the decorative arts in relation to political and socioeconomic developments. The goal is to give a general understanding and a greater appreciation of the historical periods and how they relate to each other. The successful student will be able to differentiate general periods and have an understanding of the western civilization's historic timeline. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THTR 5625. History of Fashion. 1 to 3 Credit Hour.
This is a survey course, examining the global history of dress from the Ancient Middle East to present day western cultures. The course focuses on what is worn, and why it is worn, correlating socioeconomic, religious and political influences on dress and fashion. The goal is to give a general understanding and a greater appreciation of the historical periods and how they relate to each other. The successful student will be able to differentiate general periods of dress and have an understanding of the western civilization's fashion timeline. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THTR 5641. Theatrical Model Making. 1 to 3 Credit Hour.
Model building skills are used in theatrical design, architecture, interior design and the film and television industry. This is a skills based studio course, with a concentration on skills, and individual progress as opposed to finished design and concept work. Concepts covered include construction materials and techniques; surface finishes and paint techniques; and research duplication. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THTR 5713. Design Drafting. 1 to 3 Credit Hour.
Drafting skills are used in many disciplines within theatrical design. As a communication tool it is essential to theatrical collaboration. This is a skills based studio course, with a concentration on industry standard drafting conventions. Students will gain knowledge in the generation, manipulation and presentation of 2D design and construction drawings. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
THTR 5741. Design for TV and Film. 1 to 3 Credit Hour. 
This is a design based studio course with highlighted components in research and presentation. Topics covered include the camera; production nomenclature; survival tactics and the market; production visuals; and a brief history of art directors and production design. Major design projects are based in an original film script, multi camera sitcom, and non-fiction informational programming. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

THTR 5804. Dramaturgy. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

THTR 5871. Playwriting I. 3 Credit Hours.
The course is designed for the relatively inexperienced playwright and the more experienced who want to improve their craft. It is a workshop based course with the focus on storytelling. The aim is to examine the fundamentals of the writers' craft: theatricality, structure, character, plot, dialogue. We are looking to develop the playwright's "voice."

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

THTR 5872. Playwriting II. 3 Credit Hours.
The serial. This course involves the creation of a jointly written serial that writers in the class create. Team writing techniques are used, and the classes become writing meetings to create weekly "episodes." Writers will rotate being Lead writers, supplying the story lines used at their particular writing session. The over-all story will be developed with character back-stories and settings established in the first two weeks.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

THTR 5873. Adaptation. 3 Credit Hours.
The course is designed to provide experience and techniques to adapt story material from other media. The work is divided into two parts: exercises in theatricality and the potential of language; and work on adapting the individual writer's choice of material. Outside reading will include other writers' material and assigned projects. The course will run as a workshop with in-class readings and discussion. Some Sunday evenings may be required.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

THTR 5874. Docudrama. 3 Credit Hours.
This course is designed to develop playwright's skills and interest in writing plays based on news events and other factual information. Docudramas, plays based on actual happenings and presented with fidelity to those facts, are in demand for theater, films and television. The ability to research, formulate and complete such works is a significant advantage for writers who want to pursue professional careers.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

THTR 5875. Poetry As Performance. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

THTR 5892. Script and Score Analysis. 1 to 4 Credit Hour.
This course is designed to equip students with a set of tools from which they may draw in the analysis of a musical theater text. Through weekly readings and discussion students will develop and refine criteria for analyzing and understanding musicals as well as making judgments about their merits.

Department Restrictions: Must be enrolled in one of the following Departments: Music:Education, Music:Studies, CA:Theater.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
THTR 5893. Lyric Seminar I. 1 to 4 Credit Hour.
This course offers a writing workshop environment for the study of creating lyrics for a musical theater piece. Instruction focuses on three equally important and interrelated aspects of songwriting: form, theme, and content. Each week, students perform practical exercises and write lyrics to strengthen their songwriting skills. Exercises are designed to broaden rhyming patterns, add specificity and color to songs, and strengthen narrative. Students also study lyrics from established songwriters such as Cole Porter, Ira Gershwin, Oscar Hammerstein and Stephen Sondheim. The course culminates in the presentation of a 12 minute piece written by the student.

**Department Restrictions:** Must be enrolled in one of the following Departments: CA: Thea.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

THTR 5894. Lyric Seminar II. 1 to 4 Credit Hour.
This course builds on the foundational practices and principles learned and developed in Lyric Seminar I. Musical Theater is an integral and ever-changing part of the American culture. Its ambiguous relationship—or lack thereof—with the "popular music" of the day has caused a detachment between writers and audiences. This course encourages the aspiring writers to seek new directions in the writing of musical theater. The students will examine classic and contemporary examples of musical theater pieces, as well as works from other genres, and proceed to write their own scenes and lyrics. They will also become familiar with various musical styles and learn to communicate with future collaborators.

**Department Restrictions:** Must be enrolled in one of the following Departments: CA: Thea.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

THTR 8001. Seminar in Dramatic Literature. 2 to 3 Credit Hours.
A comprehensive study of the literature, criticism, and history of Western theater from the ancient Greeks to the end of the French neo-Classic period. Note: Required of all M.F.A. candidates.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

THTR 8002. Seminar in Dramatic Literature. 2 to 3 Credit Hours.
A comprehensive study of the literature, criticism, and history of Western theater from the Restoration period to the present. Note: Required of all M.F.A. candidates.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

THTR 8211. Speech for the Actor III. 1 to 3 Credit Hour.
Exploration and study of dialects and accents for use in stage productions. Initial emphasis for each dialect will be on the use of the International Phonetic Alphabet for dialect transcription. Then special attention is placed on gaining comfort and ease in the dialects through conversation and improvisation. The class will consist of regular presentation and performance of scripted material using each of the selected dialects. Dialects to be studied and reviewed include: Irish, French, South African, Spanish, and Italian and one North American (or otherwise new world dialect of students choosing). There is a final project where dialect accentuation and interview skills will be put to the test.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

THTR 8212. Speech for the Actor IV. 1 to 3 Credit Hour.
Begin work on dialect acquisition and learn Standard British as well as a non-coastal southern US dialect. The goal is that the dialect work will culminate in performances, (in collaboration with the Graduate Acting Class), of dialect plays. Also, throughout the semester, they will continue work on standard speech by applying it to a poetry-in-performance project that will be work-shopped in class. As a capstone for this year's work, actors choose a dialect that they research, master and teach to the class; they also apply it to a monologue that will be performed in Friday Scenes.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.
THTR 8221. Acting III. 3 Credit Hours.
Text: Explore different playwrights, focusing on texts that challenge the actor in style, period, class, character, movement, and language. Research literature and the historical context and physical world of the period using exercises and scene work from plays by Tennessee Williams and Eugene O'Neill. Through improvisation and in small group projects, gain a deeper appreciation for the relationship with the audience and one's own body's capacity for expression.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THTR 8222. Acting IV. 1 to 3 Credit Hour.
Text: Explore different playwrights, focusing on texts that challenge the actor in style, period, class, character, movement, and language. Research literature and the historical context and physical world of the period to find appropriate movement to reveal characters' psychological impulses. Technique: Introduce Chekhov Technique. Scene work is from plays by Anton Chekhov. Shakespeare: Continue increased emphasis on the physical dimension through explorations with Laban and focus on discovering the muscularity and musicality of the language, images, and movement impulses in the text. Continue to develop and refine a feeling for Shakespeare with an awareness of sound and rhythm in relation to meaning and emotion and how that translates into action.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

THTR 8231. Vocal Production for the Actor III. 2 to 3 Credit Hours.
Focus on structuring the voice while maintaining the relaxation and centeredness acquired in the destructuring. Structuring employs rib-reserve and abdominal support. Application of this technique to Shakespeare monologues.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

THTR 8232. Vocal Production for the Actor IV. 1 to 3 Credit Hour.
Focus on structuring the voice while maintaining the relaxation and centeredness acquired in the destructuring. Structuring employs rib-reserve and abdominal support. Application of this technique to Shakespeare scenes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

THTR 8241. Dance for the Actor III. 2 to 4 Credit Hours.
Movement: In the fall, students apply the principles of the Alexander Technique to vocal work. Students explore the relationship between the use of their Primary control and vocal resonance, breathing, and emotional availability. Students will apply the Alexander Technique to the whispered “ah”, vocal exercises, singing, and monologues. The goal of this class is to help actors become aware of the role that their overall physical use plays in their vocal expression and to give them a means whereby they can work towards vocal health and expressiveness. Dance: The first half of the class period alternates weekly between Modern and Ballet. The second half of the class addresses such social steps as the Polka, Mazurka, waltz, Tango, and Fox Trot. Stage Combat: This course focuses on familiarizing students with the essential requirements for performing safe, effective stage combat. Students train in the foundation skills of stage combat techniques: Unarmed and knife.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

THTR 8242. Dance for the Actor IV. 1 to 3 Credit Hour.
Movement: In the spring, the course centers on characterization - on doing the “incorrect thing correctly.” Through out-of-class observation and analysis as well as in-class investigation and scene work, students apply what they have learned in previous years to the exploration of characters with age, disabilities, and other physical challenges. The goal of this course is to teach actors how to keep their instruments healthy and working at their best when presented with a challenging role. Dance: The first half of the class period alternates weekly between Modern and Ballet. The second half of the class is devoted to Tap: time steps, soft shoe, buck and wing, and fast foot coordination. Stage Combat: Introduction of additional weapon styles: Rapier, Dagger and Broadsword. The performer receives a well-rounded approach to each style. At the conclusion of the course, students will have the opportunity to take the “Skills Proficiency Tests” toward official SAFD recognition in stage combat skills.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
THTR 8321. Costume Production. 1 to 3 Credit Hour.
This course is an introduction to the process of costume construction from the designer's sketch to the finished garment. This course will cover basic skills necessary to construct a garment and create costume props and accessories. Sewing skills, fabric identification and basic pattern layout are some of the topics included. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THTR 8421. Drawing and Rendering for the Theater I. 1 to 3 Credit Hour.
This course is a skills based studio class, with a concentration on skills and individual progress as opposed to finished design work. The course covers dry and wet media as a basis for further study of presentation and communication techniques in all disciplines of theatrical design. Included media - pencil, charcoal, pen and ink, watercolor, gouache and acrylic. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THTR 8422. Drawing and Rendering for the Theater II. 1 to 3 Credit Hour.
This course is a skills based studio class in digital and digital/hand combinations techniques. There will be a concentration on skills and individual progress as opposed to finished design work. The digital environments of Photoshop, Illustrator and SketchUp will be explored along with how those programs can be combined with analog drawing and painting techniques. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THTR 8431. Scene Painting I. 1 to 3 Credit Hour.
The goal of this course is to provide the student with a basic knowledge of scenic painting techniques, including styles, tools and nomenclature. These goals will be achieved through demonstration and practical "hands-on" painting projects. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THTR 8432. Scene Painting II. 1 to 3 Credit Hour.
This course is a continuation of Scene Painting I. Techniques and concepts that were introduced will be explored in more detail. Concentration is on intermediate techniques and the execution and accurate use of paint elevations. Assignments are more individualized and the student must be self-motivated in carrying out the assignments. As in Scene Painting I, the goals will be achieved through practical "hands-on" painting projects. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THTR 8482. Projects in Technical Production. 1 to 8 Credit Hour.
A practicum course to provide a grading source for graduate production work. Work will be evaluated in the following general areas: professional practice, artistic growth, communication, and collaboration. The faculty will also be asking for a self-evaluation of your project, in written form, due at a date to be determined by the Design and Production faculty. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
THTR 8511. Lighting Design II. 1 to 3 Credit Hour.
To provide a clear understanding and strong basis of language analysis and its application in lighting design. Various techniques in text interpretation will be used and explored. These techniques will then be used to the design process. There will also be a research project in the direct application of contemporary scientific developments. Throughout this course, the design process for the current Temple productions will continually be examined.

All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

THTR 8521. Lighting Design III. 1 to 3 Credit Hour.
To provide a clear understanding and strong basis of language analysis and its application in lighting design. Various techniques in text interpretation will be used and explored. These techniques will then be used to the design process. There will also be a research project in the direct application of contemporary scientific developments. Throughout this course, the design process for the current Temple productions will continually be examined.

All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

THTR 8611. Costume Design II. 1 to 3 Credit Hour.
The goal of Costume Design II is to develop skills leading to a profession in the field of costume design for the performing arts (theater, television, film, opera, dance, etc.) or entertainment industry. Advanced projects in script analysis, character development, primary and secondary research as well as real-world problem solving. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

THTR 8621. Costume Design III. 1 to 3 Credit Hour.
The goal of Costume Design III is to continue development of skills leading to a profession in the field of costume design for the performing arts (theater, television, film, opera, dance, etc.) or entertainment industry. Advanced projects in script analysis, character development, primary and secondary research as well as real-world problem solving. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

THTR 8622. Draping and Flat Pattern Drafting I. 1 to 3 Credit Hour.
To develop skills in drafting flat patterns using slopers, draping on a dress form, individual measurements and pattern resources. Pattern making skills will focus on historic patterns and fabrics and the development of period costumes for theatrical use. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THTR 8623. Costume Crafts. 1 to 3 Credit Hour.
This class covers materials techniques and alternative applications used in creating costume pieces that are crafted rather than sewn. Projects will include mask making, millinery and other costume accessories used in theatrical productions. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
THTR 8624. Draping and Flat Pattern Drafting 2. 1 to 3 Credit Hour.
This course entails advance flat pattern drafting and draping techniques needed to construct period garments for theatrical productions. The focus of the projects will be on period men’s garments, tailoring techniques and advance pattern drafting. All Theater/Design candidates actively participate in design and production work in the Theater Department’s main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
THTR 8621|Minimum Grade of B-|May not be taken concurrently.

THTR 8641. Theatrical Makeup. 1 to 3 Credit Hour.
The course is designed to give to students an overview of basic makeup techniques with the hands-on opportunity to learn and apply the principles of standard and character stage makeup.

All Theater/Design candidates actively participate in design and production work in the Theater Department’s main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THTR 8682. Projects in Costuming. 1 to 8 Credit Hour.
A practicum course to provide a grading source for graduate production work. Work will be evaluated in the following general areas: professional practice, artistic growth, communication, and collaboration. The faculty will also be asking for a self-evaluation of your project, in written form, due at a date to be determined by the Design and Production faculty. All Theater/Design candidates actively participate in design and production work in the Theater Department’s main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

THTR 8711. Scene Design II. 1 to 6 Credit Hour.
This is a skills/activity course in the theory, process, and techniques of scenic design for the theater. Topics will include principles, elements, and concepts of design; script analysis; design concept development; creative research and its interpretation; and the communication and presentation of theatrical ideas. Specific projects, lectures and discussions, followed by student presentation and response will structure the course. Projects and presentations will include: scenic plots, research, thumbnails, sketches, ground plans, elevations, color renderings and models. All Theater/Design candidates actively participate in design and production work in the Theater Department’s main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

THTR 8721. Scene Design III. 1 to 3 Credit Hour.
This is a skills/activity course in the theory, process, and techniques of scenic design for the theater. Topics will include principles, elements, and concepts of design; script analysis; design concept development; creative research and its interpretation; and the communication and presentation of theatrical ideas. Specific projects, lectures and discussions, followed by student presentation and response will structure the course. Projects and presentations will include: scenic plots, research, thumbnails, sketches, ground plans, elevations, color renderings and models. All Theater/Design candidates actively participate in design and production work in the Theater Department’s main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
THTR 8881. Playwriting III. 3 Credit Hours.
Writers and Directors. This course explores the relationships between writers and directors in the creation of new work. The aim is to create the most fruitful collaborative experience so that the writer can complete work influenced by staging possibilities, and the director can understand more fully the nuances of original texts. Mounting scenes and creating practical circumstances for writers and directors will be the primary methods for exploring this essential relationship.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

THTR 8882. Playwriting IV. 3 Credit Hours.
This course examines and develops techniques for creating solo performance works, works intended to be done by the writer or by actors. The work of such early solo artists as Spalding Gray, Eric Bogosian, Anna Deveare Smith, Laurie Anderson and Karen Finley will be discussed as well as contemporary artists. Course will culminate in a solo performance night.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

THTR 8883. Teaching Playwriting. 3 Credit Hours.
In the third year of the program, the playwright will teach classes or all of a playwriting course, preparing syllabi and daily lesson plans. The mentor will visit classes and examine the work produced.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

THTR 8983. Vocal Arranging. 1 to 4 Credit Hour.
Vocal Arranging is designed for students who want to write vocal charts for the musical theater stage and music industry professionals that are easy to understand, cleanly written, plot driven, and musically satisfying. Through guided study using demonstrations, audio clips, and writing exercises, the course explores how to write for a variety of vocal ranges and timbres and how to create interest by utilizing numerous arranging tools. The course starts by introducing the basic concepts of vocal writing--how singers use their voices and what they need from writers, in addition to proper notation and setting of text to music. Analysis of “successful” vocal arrangements from a variety of arrangers past and present will be emphasized as well as writing projects. The course then explores how to create rich textures through 2-, 3-, and 4-part background harmonies, increasing in complexity. You will also study a capella writing, stressing the importance of constantly changing texture to maintain interest. Each week, you will have the opportunity to rehearse and record your own arrangements, thereby hearing what you’ve created.

Department Restrictions: Must be enrolled in one of the following Departments: CA:Theater.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

THTR 8984. Music Direction for the Musical Theater Stage. 1 to 4 Credit Hour.
Study of the practical skills needed to prepare the student musical director to work in a professional musical theater environment. Songs and scenes from standard musical repertoire will be analyzed. Special attention will be given to unique challenges of the musical theater: stylistic interpretation, vocal technique and ornamentation as it applies to the stage, the creative realizing of vocal and orchestral arrangements, playing rehearsals, coaching singers, working with directors and choreographers, and aspects of sound design and amplification. Participants will use the latest technology to receive hands on training in the management and implementation of the musical theater audition, rehearsal, and production processes. Lectures will also be given by industry experts on pertinent subjects relating to real-world success in the field of music direction.

Department Restrictions: Must be enrolled in one of the following Departments: CA:Theater.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

THTR 8985. Teach in Higher Education. 3 Credit Hours.
This is a course in pedagogy that is designed to expose graduate students to “best teaching practices” in Higher Education. Successful completion of the course results in a certificate from Temple University verifying that the student has successfully prepared to teach on the college level.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.
THTR 9001. Lyrics/Book Seminar I. 1 to 4 Credit Hour.
This course focuses on developing the framework of a musical theater piece. The workshop discussion includes the basic book and lyric writing techniques: plot structure, story development and adaptation, as well as song forms (pop, musical theater, etc.) and how to musicalize scenes. Writers will also be encouraged to explore the collaborative process and develop ideas for original musicals.

Department Restrictions: Must be enrolled in one of the following Departments: CA:Theater.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THTR 9002. Lyrics/Book Seminar II. 1 to 4 Credit Hour.
This course continues the work of Lyrics/Book Seminar I, focusing on developing the framework of a musical theater piece. The class expands on foundational studies in book and lyric writing techniques: plot structure, story development and adaptation, as well as song forms (pop, musical theater, etc.) and how to musicalize scenes. Writers continue to explore the collaborative process and develop ideas for original musicals.

Department Restrictions: Must be enrolled in one of the following Departments: CA:Theater.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THTR 9085. Theater Internship. 1 to 6 Credit Hour.
This course offers hands-on, organized, professional work under supervision in a professional theater or a leader in the entertainment industry. Permission of the instructor is necessary and course registration must occur prior to actual internship work. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THTR 9087. Graduate Ensemble Practicum. 1 Credit Hour.
This course provides a forum for creating ensemble across the Theater MFA cohort. Its purpose is to generate relationships and networking opportunities as well as dissolving barriers between disciplines. Course work will include in-class projects, round table discussion, production presentations and professional guests on subjects appropriate to the success of a working artist. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Department Restrictions: Must be enrolled in one of the following Departments: CA:Theater.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.

Repeatability: This course may be repeated for additional credit.

THTR 9211. Speech for the Actor V. 1 to 3 Credit Hour.
In the third year, speech class is devoted to tutorials. Students meet with the professor and decide on a course of study that fits their area of specialization and emphasis. Each student meets on a weekly basis for at least one half-hour. During these sessions, any persistent speech problems the student has may be addressed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

THTR 9212. Speech for the Actor VI. 1 to 3 Credit Hour.
Ongoing tutorials in student and teacher-driven projects. As a capstone for this year, actors will focus on a topic in speech as it applies to their final main stage performance. A final written evaluation and score of the text will serve as documentation of their work.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
THTR 9221. Acting V. 1 to 3 Credit Hour.
Acting V focuses on acting work in front of the camera - both as a way of learning how to successfully transition acting skills to mediated dramatic material and as a way of examining the work as seen through the lens of the camera.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

THTR 9222. Acting VI. 1 to 3 Credit Hour.
Acting VI is the culmination of the graduate acting sequence and will focus on projects such as serialized dramatic material, or generative projects in partner with the graduate directing program. The work will be highly collaborative and will culminate in a final project.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

THTR 9231. Vocal Production for the Actor V. 2 to 3 Credit Hours.
Research a major voice technique through careful study of one text. Prepare a presentation of the main thesis as well as a sequence of exercises that most clearly exemplifies the method and is most useful for the vocal development of the actor. Continue work on individual vocal development through private tutorials.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

THTR 9232. Vocal Production for the Actor VI. 1 to 3 Credit Hour.
Discussion of methods and presentation of workshops by those who have elected a vocal emphasis. Continue work on individual vocal development through private tutorials.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

THTR 9241. Dance for the Actor V. 1 to 3 Credit Hour.
Movement: The fall semester concentrates on a broader view of kinesthetically-based methods of working with oneself, with the primary focus being the relationship between the Alexander Technique and the Feldenkrais Method. Through Awareness, Movement and Functional Integration students will delve into their personal movement patterns from a different perspective. The goal of this course is to provide a perspective on how to use their Alexander training when presented with other movement modalities. Dance: Projects involving movement and dance will be conceived and coached. Also, individual attention to those students for whom this area is their craft emphasis. Stage Combat: Students continue in new weapon styles: Single sword, Small Sword and Quarterstaff. Again, at the conclusion of the class, students will have the opportunity to take the "Skills Proficiency Tests" toward official SAFD recognition in advanced stage combat skills.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

THTR 9242. Dance for the Actor VI. 1 to 3 Credit Hour.
Movement: In the spring, the course will be treated as a studio class with students receiving multiple private lessons and presenting scenes and monologues in class. The goal of this class is focus in depth on each student's individual vocal and physical needs and to give them opportunities to perform using the skills they are working on in front of an audience that can give informed feedback. Dance: Projects involving movement and dance will be conceived and coached. Also, individual attention to those students for whom this area is their craft emphasis. Stage Combat: Students will have the opportunity to continue their training by assisting in teaching an undergraduate combat class or by pursuing a special topic as their craft emphasis. The craft emphasis will culminate in a performance or workshop, incorporating stage combat skills.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

THTR 9251. Acting for the Camera. 1 to 3 Credit Hour.
The study of acting techniques as applied to film, soap operas, prime-time dramas, prime-time situation comedies, commercials and industrials.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.
THTR 9282. Project in Acting. 1 to 4 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

THTR 9283. Projects in Acting. 1 to 8 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

THTR 9382. Projects in Directing I. 1 to 4 Credit Hour.
The course is offered each year on a tutorial basis and may be repeated for credit.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

THTR 9383. Projects in Directing II. 1 to 4 Credit Hour.
The course is offered each year on a tutorial basis and may be repeated for credit.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

THTR 9387. Directing Practicum III. 1 to 3 Credit Hour.
The theory and practice of directing, focusing on specific genre scenes. Students will study the scene as a means of exploring the work of challenging playwrights.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

THTR 9388. Directing Practicum IV. 1 to 4 Credit Hour.
The theory and practice of directing, focusing on specific genre scenes. Students will study the scene as a vehicle for developing stylistic or methodological approaches to directing.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

THTR 9411. Seminar in Technical Production I. 1 to 6 Credit Hour.
A variable topic production course covering subjects not found in other courses. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

THTR 9421. Seminar in Technical Production II. 1 to 6 Credit Hour.
A variable topic production course covering subjects not found in other courses. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

THTR 9483. Projects in Technical Production. 1 to 8 Credit Hour.
A practicum course to provide a grading source for graduate production work. Work will be evaluated in the following general areas: professional practice, artistic growth, communication, and collaboration. The faculty will also be asking for a self-evaluation of your project, in written form, due at a date to be determined by the Design and Production faculty. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.
THTR 9487. Musical Theater Practicum III. 1 to 4 Credit Hour.
This course is a continuation of Musical Theater Practicum II, an intensive, team-taught practicum that guides directors, composers, lyricists, and book writers to merge their unique artistic visions to create musical theater pieces. Songwriting craft, issues of communication between artists of different disciplines, and storytelling through music and text are emphasized. From character creation and script analysis to collaborating with writers, directors and music directors, students will have the full experience of working on new musical pieces, and will be encouraged to find their own voices and learn to merge their unique artistic visions with those of other collaborative artists to create exciting new work. Class participants work in rotating teams to write and present songs and scenes, exploring song form, dramatic structure, and the process of conceiving longer works.

Department Restrictions: Must be enrolled in one of the following Departments: CA: Theater.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

THTR 9511. Seminar in Lighting I. 1 to 6 Credit Hour.
A variable topic production course covering subjects not found in other courses. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

THTR 9521. Seminar in Lighting II. 1 to 6 Credit Hour.
A variable topic production course covering subjects not found in other courses. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

THTR 9582. Projects in Lighting. 1 to 8 Credit Hour.
A practicum course to provide a grading source for graduate production work. Work will be evaluated in the following general areas: professional practice, artistic growth, communication, and collaboration. The faculty will also be asking for a self-evaluation of your project, in written form, due at a date to be determined by the Design and Production faculty. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.

THTR 9587. Musical Theater Practicum IV. 1 to 4 Credit Hour.
This course is a continuation of Musical Theater Practicum III, an intensive, team-taught practicum that guides directors, composers, lyricists, and book writers to merge their unique artistic visions to create musical theater pieces. Songwriting craft, issues of communication between artists of different disciplines, and storytelling through music and text are emphasized. From character creation and script analysis to collaborating with writers, directors and music directors, students will have the full experience of working on new musical pieces, and will be encouraged to find their own voices and learn to merge their unique artistic visions with those of other collaborative artists to create exciting new work. Class participants work in rotating teams to write and present songs and scenes, exploring song form, dramatic structure, and the process of conceiving longer works.

Department Restrictions: Must be enrolled in one of the following Departments: CA: Theater.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

THTR 9611. Seminar in Costumes. 1 to 6 Credit Hour.
A variable topic production course covering subjects not found in other courses. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may be repeated for additional credit.
THTR 9621. Seminar in Costumes II. 1 to 6 Credit Hour.
A variable topic production course covering subjects not found in other courses. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

THTR 9682. Projects in Costuming. 1 to 8 Credit Hour.
A practicum course to provide a grading source for graduate production work. Work will be evaluated in the following general areas: professional practice, artistic growth, communication, and collaboration. The faculty will also be asking for a self-evaluation of your project, in written form, due at a date to be determined by the Design and Production faculty. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

THTR 9711. Seminar in Scenery. 1 to 6 Credit Hour.
A variable topic production course covering subjects not found in other courses. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

THTR 9721. Seminar in Scenery II. 1 to 6 Credit Hour.
A variable topic production course covering subjects not found in other courses. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

THTR 9782. Projects in Scene Design. 1 to 8 Credit Hour.
A practicum course to provide a grading source for graduate production work. Work will be evaluated in the following general areas: professional practice, artistic growth, communication, and collaboration. The faculty will also be asking for a self-evaluation of your project, in written form, due at a date to be determined by the Design and Production faculty. All Theater/Design candidates actively participate in design and production work in the Theater Department's main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

THTR 9882. Projects in Playwriting. 1 to 6 Credit Hour.
Working with a mentor on an ongoing project. The course is offered each year on a tutorial basis and may be repeated for credit.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

THTR 9982. Projects in Playwriting. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
THTR 9991. Research. 1 to 4 Credit Hour.
A research project and written documentation may be required of all MFA Design candidates at some point during their three year program. Subject and format to be determined by the candidate and their mentor. All Theater/Design candidates actively participate in design and production work in the Theater Department’s main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

THTR 9995. Thesis. 1 to 8 Credit Hour.
A thesis project and written documentation is required of all MFA Design candidates. The candidate will create a thesis committee to preside over their defense and approval of the written document. All Theater/Design candidates actively participate in design and production work in the Theater Department’s main stage season. This design and production work is an extension of what is presented in the classroom and an experiential component to the degree program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Therapeutic Recreation (THRC)

Courses

THRC 5009. Entrepreneurship in the Health Professions. 3 Credit Hours.
This course is designed to introduce students to entrepreneurship. The goal of the course is to demonstrate the links between knowledge, experience and skills and commercial possibilities. The course integrates a number of different disciplines, ranging from sociology and psychology to economics, finance, marketing and human resource management. Through assigned readings, class discussions, activities and guest lectures from various professional fields, students will be challenged to apply theoretical principles, concepts and frameworks to real world situations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THRC 5101. Health, Activity and Aging. 3 Credit Hours.
This course provides an interdisciplinary lifespan-oriented overview of the aging process, with an emphasis on its interrelationships with health and activity. Particular emphasis is given to the roles of leisure, health, activity, and environment in promoting health and well-being, as well as accommodations that may be necessary to maintain the health and well-being of older adults. Given the diversity of aging populations, topics such as gender, ethnicity, and lifelong disabilities are also addressed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THRC 5102. Orientation TR. 2 to 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THRC 5204. Recreation Therapy and Assistive Technology. 3 Credit Hours.
This course introduces students to the role of assistive technology (AT) in promoting the full inclusion and community participation of persons with disabilities. Emphasis is placed on the AT devices and services that promote functional independence and participation in the community and in physically and socially active recreation and leisure.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THRC 5205. RT Geriatric Services. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
THRC 5211. Rec Th & Phys Rehab. 3 Credit Hours.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

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THRC 5212. Play and Development. 3 Credit Hours.

This blended course (i.e., online and classroom) explores the theoretical and practical dimensions of play and the dynamic relationship between child's play and development. The course examines the intersection of gender, race/ethnicity, culture, community, media, and technology with play and development. Topics include play of typically and atypically developing children, assessing play behaviors, designing multipurpose play environments, and current efforts to reinvigorate the culture of play in children development. NOTE: Undergraduates may register for this course with permission of the instructor. Also, previous coursework in developmental psychology, child/adolescent psychology, or lifespan/human development is suggested.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

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THRC 5213. Therapeutic Play, Recreation and Children's Health. 3 Credit Hours.

This course examines the range of organized and structured play and recreation services used by recreation therapists to promote health, well-being, and social inclusion of children. The course examines developmental and psychosocial needs resulting from trauma, abuse, chronic illnesses, and other disabling conditions, and the use of play and recreation modalities to promote resiliency, recovery and hope within myriad service settings including hospitals, residential treatment centers, schools, camps, and municipal recreation departments. NOTE: Undergraduates may register for this course with permission of the instructor. Also, previous coursework in developmental psychology, child/adolescent psychology or lifespan/human development is suggested.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

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THRC 5214. Child Life Interventions. 3 Credit Hours.

This course examines Foundation of Child Life practice, including theories and methods used to reduce stress and increase child/family abilities to cope with illness and hospitalization. The course includes rationale and evidence for interventions related to techniques to prepare children for medical procedures, pain management, coping skills, family-centered care, and bereavement support. Students learn about credentialing requirements for Child Life Specialists, and are required to engage in field-based experiential learning. NOTE: Undergraduates may register for this course with permission of the instructor.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

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THRC 5243. Managing Dementia Care. 3 Credit Hours.

Utilizing a person-centered and interdisciplinary approach, the course explores the strategies for assisting practitioners, agencies, families and caregivers with balancing the needs and behaviors of the individual with dementia, and the social and physical environments in which the person with dementia is placed. Students will apply fundamental principles for the design and evaluation of activity-based, psychosocial programs for this population. Models for managing problem behaviors while respecting the needs of the client will be explored. This course seeks to emphasize the importance of interdisciplinary support and is therefore appropriate for students of healthcare disciplines that utilize an activity-based approach. NOTE: Prior courses in lifespan/human development and anatomy are suggested. Undergraduates may enroll with permission of instructor.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

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THRC 5250. Special Topics in TR Practicum. 1 to 3 Credit Hour.

Contemporary issues related to new methods and areas of TR practice, including assistive technology, TR in school settings, home health care, and community leisure programs for individuals with disabilities are covered.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.
THRC 5261. Therapeutic Recreation and Disabilities Seminar I. 3 Credit Hours.
This seminar combines literature research on issues associated with mental health, developmental disabilities, or aging, with individual/small group conferences to integrate findings with related course content. Students complete an issues paper that synthesizes research literature and any other structured learning activities, and draws implications for Therapeutic Recreation practice. Findings are also presented to undergraduates as part of a concurrent undergraduate course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health.
Repeatability: This course may not be repeated for additional credits.

THRC 5271. Therapeutic Recreation and Disabilities Seminar II. 3 Credit Hours.
This seminar combines literature research on issues associated with physical rehabilitation, pediatrics, or long-term care, with individual/small group conferences to integrate findings with related course content. Students complete an issues paper that synthesizes research literature and any other structured learning activities, and draws implications for Therapeutic Recreation practice. Findings are also presented to undergraduates as part of a concurrent undergraduate course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health.
Repeatability: This course may not be repeated for additional credits.

THRC 5301. Evidence Based Practice in Recreation Therapy I. 1 Credit Hour.
This course will introduce students to evidence based practice in recreation therapy. Students will develop a critical understanding of how evidence is generated, retrieved, and appraised. They will become knowledgeable about the relevance of research findings for clinical decision-making in recreation therapy (RT) practice. Students will develop skills at synthesizing and presenting evidence to support or challenge current RT issues/practices for particular diagnostic groups or interventions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health.
Repeatability: This course may not be repeated for additional credits.

THRC 5302. Evidence Based Practice in Recreation Therapy II. 2 to 3 Credit Hours.
This course will introduce students to the practitioner-researcher role by building upon prior knowledge attained in THRC 5301 Evidence Based Practice in Recreation Therapy I. This course supports the use of research knowledge in making practice decisions that improve the delivery of recreational therapy interventions. It serves as a springboard for the student's Master's project.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Recreation Therapy.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

THRC 5311. Conceptual and Contemporary Issues in Therapeutic Recreation. 3 Credit Hours.
This course examines conceptual, theoretical, and practical issues associated with the organization and delivery of TR services. It uses a combination of lectures, readings, and oral and written exercises through which students reflect on and develop informed positions on core values and beliefs that support the profession. Students develop a plan of action for ongoing professional development during the academic program and beyond.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Repeatability: This course may not be repeated for additional credits.

THRC 5312. Leisure, Health, and Life Quality. 3 Credit Hours.
The purpose of this course is to explore the dominant concepts and theories related to recreation and leisure behaviors and experiences, and their linkages to health, wellness, and life quality. Current research describing the interrelationships between leisure and health/life quality are examined, including the topics of disability and diversity issues such as culture, gender, race/ethnicity, class, age/lifespan, and sexual orientation. The interlinking triads among theory/conceptualizations, research, and practice are emphasized.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health.
Repeatability: This course may not be repeated for additional credits.
THRC 5382. Independent Study. 1 to 6 Credit Hour.
This supervised project is structured between the student and a faculty mentor. Projects may include developing a research proposal, conducting a field-based investigation, or developing and evaluating a program. Registering for this course requires prior permission from a faculty mentor. A mutually agreeable study contract must be secured before the end of the second week of the semester.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

THRC 5402. Recreation Therapy Administration and Management. 3 Credit Hours.
This course examines program, personnel, fiscal, and facilities management, including professional standards of practice and accreditation standards that guide and regulate organization and delivery of Therapeutic Recreation services in health care and human services settings. The course may involve applied learning experiences in area agencies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health.

Repeatability: This course may not be repeated for additional credits.

THRC 5442. Clinical Programming and Practice in Therapeutic Recreation. 3 Credit Hours.
The course examines the dynamics of recreational and other activity-based interventions used for health promotion and psychosocial adaptation. It focuses on group program design and implementation, client motivation, and leadership skills. The course includes field-based application.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Recreation Therapy.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THRC 5787. Therapeutic Recreation Practicum. 3 to 9 Credit Hours.
Field placement is made with emphasis on acquisition and application of practical skills. For non-certified students, this 4 to 6 credit practicum is designed to meet eligibility requirements for the NCTRC credentialing examination. For currently certified students, the 3-credit practicum is designed as an advanced clinical or administrative placement.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Science.

College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health.

Repeatability: This course may be repeated for additional credit.

THRC 8133. Family Centered Care. 3 Credit Hours.
Recent legislative, professional, demographic, and social changes have expanded traditional approaches of delivery of health services to incorporate the family in treatment and/or follow up. Students have an opportunity in this course to examine family systems theories and family-centered services for individuals with disabilities across the life cycle. They will also explore models of family-centered teams, the issues of client/family empowerment, and the accessing of services, as well as learning how to incorporate this information into the development of a family service plan. Many sessions will have an experiential component to increase awareness of family issues effecting treatment and/or practical application of technique.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THRC 8161. Methods in Community-Based Participatory Research (CBPR) for Health. 3 Credit Hours.
This course aims to critically examine how researchers, practitioners, and community partners can work together to establish and consolidate equitable, transdisciplinary, and sustainable partnerships by using a CBPR approach to improve the health and life quality of community populations in general and to eliminate health disparities in particular. What distinguishes CBPR from other approaches to research is the active engagement and integration of all investigators and partners into the research process through such principles as mutual respect and teamwork (rather than a top-down/university-down approach); co-learning and mutual capacity building; and power-sharing and co-ownership of research. This course provides an overview of conceptual, methodological, and practical approaches to CBPR by focusing on cross-disciplinary health issues such as holistic health, culture and health, health disparities, mixed methods in health research, evidence-based and people-centered community healthcare, and inclusive health policy.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
THRC 8280. Behavioral Change Seminar. 3 Credit Hours.
This course provides structure through which students design and implement a theory-based individual or group behavior change program through local agencies. Drawing from evidence-based “best practices” and national mandates to improve the health and wellness of individuals with chronic illnesses and disabilities, programs are designed to promote health and reduce secondary conditions. Seminar meetings are also used to provide peer supervision and feedback.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

THRC 9282. Readings and Conference for Therapeutic Recreation. 1 to 3 Credit Hour.
In-depth investigation of current literature related to a specialized area of research or practice is undertaken. Examples include health promotion programs to prevent secondary health problems, dementia care, programming for at-risk youth, and ethics. The course may also be used as preparation for THRC 8141 or background preparation for the comprehensive examination.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Therapeutic Recreation.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

THRC 9995. Master’s Project in Therapeutic Recreation. 1 to 3 Credit Hour.
Enrollment in this course is limited to those completing the master’s degree requirements through a field-based programming project under the supervision of a faculty member. Projects include but are not limited to designing, implementing, or evaluating therapeutic recreation programs; designing projects related to systems change; or engaging in constituent awareness and education.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Therapeutic Recreation.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
THRC 8102|Minimum Grade of B|May not be taken concurrently.

Tourism and Hospitality Management (THM)

Courses

THM 5311. Service Management for the Tourism and Hospitality Industry. 3 Credit Hours.
This course provides an introduction to the underlying principles of service management in the tourism and hospitality industry. It is focused on the strategies, systems, processes and design aspects of creating and evaluating service delivery, service excellence and service orientation. Topics include understanding the "service-dominant logic" approach to marketing and managing service, setting service strategy, understanding customer needs, building a service-minded workforce, measuring and evaluating service quality, and drivers of service industry customer loyalty.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

THM 5312. Legal Issues for Hospitality and Event Enterprises. 1.5 Credit Hour.
Hospitality law, especially when dealing with customers and business contracts, will form the basis of this course. Consideration is given to the legal implications of civil laws as well as areas of tort and contract, along with the law and legal relationships that exist in the business context. Issues will be discussed from the points of view of hoteliers, restaurateurs, and event planners. Attention will be given to labor relations laws, the Americans with Disabilities Act, risk management, zoning, and unions, with a particular focus on the legal implications for hospitality and event startups.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.
THM 5313. Financial Mgt Tour/Hosp. 3 Credit Hours.
The course will analyze managerial accounting and financial management as they are practiced in the tourism and hospitality industry, along with management strategies for financing ventures and expansion. Topics will include hospitality accounting systems and internal control, financial statement analysis and interpretation, operational analysis, cost behavior, budgeting and forecasting, pricing and feasibility analysis. Computer applications will be highlighted.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THM 5314. e-Business for Tourism and Hospitality. 3 Credit Hours.
This course will examine how and why electronic business and the Internet have impacted the tourism, hospitality, and entertainment industries. It will discuss the various business models that are used, and highlight the successes and failures of those models. Topics will include marketing, finance, strategy, and globalization with special emphasis on information technology and the dissemination of information.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

THM 5315. Strategic Tourism and Hospitality Marketing. 1.5 Credit Hour.
This course provides a strategic overview of marketing in the contemporary tourism and hospitality industry. Important topics include marketing concepts, service characteristics, marketing environment and intelligence, marketing research, marketing mix, segmentation, targeting and positioning. Special emphasis will be placed on the analysis of the marketing environment and the diversity of marketing practices used by tourism/hospitality marketers in today's global market place. The course is designed as the foundation course for the Tourism and Hospitality Marketing concentration in the MSHM program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

THM 5316. Strategic Management in the Tourism and Hospitality Industry. 3 Credit Hours.
This course covers the concepts of strategic management in the tourism and hospitality business environment and the role of strategic leadership practices. Strategic management principles will be examined to create competitive advantages for tourism and hospitality industry leaders and organizations. Specifically, the course examines the total enterprise, the industry, and the competitive environment in which it operates. The goal is to develop a mastery of the analytical tools to perform analyses of the environment, industry, competitors, and organizational resources. Management implications that are related to strategy development, implementation, and control are examined with a focus on the effective allocation of organizational resources.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Tourism and Hospitality Mgmt.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

THM 5317. Tourism and Hospitality Management Consulting Project. 3 Credit Hours.
The THM Consulting Project is designed as a capstone experience to enable MTHM students in their final semester, to work in consulting teams, analyzing real tourism and hospitality business problems, recommending appropriate actions for client organizations in the greater Philadelphia region. In teams of three to five, students will emphasize their critical and creative thinking that they have developed as a result of participating in the MTHM program to enable effective problem identification with a solution orientation. Teams will develop a written report that provides an analysis of the current situation, recommended solutions, as well as a detailed implementation plan. A formal presentation of the report to the client organization is also required. A strong emphasis will be placed upon developing consulting skills which will augment the discipline specific content reflected in other courses.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Tourism and Hospitality Mgmt.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.
THM 5318. Sustainable Tourism Management. 3 Credit Hours.
This course provides an overview of the foundations of the destination design process. Emphasis will be on the basic theory of travel behavior as well as the systems that support the development of destinations. Consideration will be given to the ecological impacts of tourism, examining the processes that enable sustainable destination planning. Special readings from the current literature, case studies, guest speakers, and video cases will form an integral part of this course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

THM 5320. Special Topics in Tourism and Hospitality Management. 1.5 Credit Hour.
This seminar is designed to provide an in-depth exploration of special topics, current issues, and trends in the tourism and hospitality industry. Relevant industry problems and issues facing management and personnel in the related industries will be discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may be repeated for additional credit.

THM 5321. Tourism Analytics. 3 Credit Hours.
This course aims to provide tourism industry professionals with the necessary tools to guide/aid decision making. The course is designed to familiarize students with quantitative data management and analytic skills such as econometric modeling, forecasting, interpretation of results, and development of conclusions, using tourism and hospitality information databases, as well as analytical software. Specific emphasis is given to econometric modeling of tourism assets that have cross and/or spatial dependence, in conjunction with applicable urban economics and finance theories. The course has two main goals: development of skill in the use of advanced data analysis techniques and the development of expertise in the interpretation and communication of their results.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THM 5322. Strategic Brand Management. 1.5 Credit Hour.
Successful brand management is a requirement for tourism and hospitality organizations operating in highly competitive markets. In providing students the insight to leverage a competitive advantage through brand management, this course will introduce the nature of brands, the importance of the brand establishing a promise, and the tools required to develop a coherent brand strategy. Consideration will be given to the elements of a successful service brand with a focus on establishing a compelling differentiated tourism and hospitality proposition. A strategic brand management framework will set the foundation for the course, enabling students the opportunity to consider, in detail, the elements required to manage a tourism or hospitality brand effectively.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Tourism and Hospitality Mgmt.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

THM 5323. Sustainable Tourism Development. 3 Credit Hours.
This course will examine the three major areas that make up sustainability: economic, socio-cultural, and environmental sustainability. Students will learn how the international tourism industry effects each of these areas and the inter-connectedness of these impacts. Students will investigate the main principles for sustainable tourism development at the local, regional, national, and international levels.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THM 5324. International Tourism. 3 Credit Hours.
The importance and the development of an international tourism market will be discussed, along with the planning and development of an international tourism destination. Cultural tourism and ecotourism will be included.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.
THM 5325. Gaming and Casino Management. 1.5 Credit Hour.
The objectives of this course are to develop an understanding of the gaming industry. An examination of the evolution of the industry will set the foundation for examining management considerations for casino operations within a casino hotel. Current issues in the casino and gaming industry will be discussed with a detailed examination of trends, policies, and subsequent operational impacts.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Tourism and Hospitality Mgmt.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

THM 5326. Consumer Behavior in Tourism and Hospitality. 3 Credit Hours.
This course provides an overview of current knowledge about consumer behavior in the tourism/travel and hospitality businesses. Basic behavioral science and specific research (both qualitative and quantitative) tools used in marketing practice are covered. Issues of consumer decision-making, behavioral determinants, cultural influences, motivation, information search, and marketing implications are addressed. The course format includes lecture/discussion, student presentations, and a required term paper. The course is designed for graduate students who want to pursue managerial positions in consumer behavior/marketing research in the tourism or hospitality industry. [Basic college-level statistical knowledge is required.]

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

THM 5327. Customer Relationship Management in Tourism and Hospitality. 1.5 Credit Hour.
This course focuses on the broad spectrum of Customer Relationship Management (CRM) and concentrates on concepts and practices related to building and maintaining customer loyalty and firm profitability in the tourism/hospitality businesses. It emphasizes customer profitability analysis and the profitable management of customer relationships. It covers innovative approaches to calculating the value of customers, managing customer portfolios, and making strategic decisions necessary to increase customer equity using value propositions. Some data mining/management examples will be used to illustrate the relevant CRM techniques.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

THM 5328. Tourism Economics and Policy. 3 Credit Hours.
This course focuses on the role that economics and policy play within the tourism industry. Specific economic and policy theories that are essential for the tourism industry will be investigated. Topics include theory of tourism demand and supply, using cost-benefit analysis, tax policy impacts, tourism valuation, economic analysis in management, and marketing and policy decision.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THM 5329. New Media and Distribution. 1.5 Credit Hour.
This course will examine the fluid and rapidly changing nature of the distribution networks of the tourism and hospitality industry and the resultant effects on branding, loyalty, and value. Specifically, this highly interactive class will explore the complex relationships that currently exist in the tourism and hospitality industry, both in terms of financial and operating structure, and those with vendors who sell their products. A particular focus will be on current and emerging intermediaries, who will increasingly yield substantial influence as the gatekeepers directing consumer traffic, and ways to measure their relative effectiveness.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Tourism and Hospitality Mgmt.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.
THM 5331. Hospitality Operations Management. 1.5 Credit Hour.
This course concerns itself with how work is done in hospitality operations. Hospitality operations tend to be complex due to their unique characteristics and highly uncertain environments. Students will develop an understanding of operations management theories and expand their ability to apply suitable theories under different situations. Application of techniques to create, operate, staff and evaluate service systems is emphasized. Consideration is given to queuing, forecasting demand, route and scheduling as well as quality management and liability minimization. The course is designed as the foundation course for the Operations Management concentration in the MTHM program.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

THM 5332. Management Information Systems in Tourism and Hospitality. 3 Credit Hours.
This class will examine the implication of information technology on the tourism and hospitality business and how to manage information technology resources within a company to maximize operation efficiency and productivity. Students will learn to be information technology professionals in the industry who can manage, develop, and lead organizational information systems based on the integration of core business concepts and ever-changing knowledge about information and technology.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

THM 5333. Seminar for Information Technology in Tourism and Hospitality. 3 Credit Hours.
The final course in the information technology track is a case studies course. We will be examining technology and dot-com case studies in the tourism, hospitality, and entertainment industries. The case study methodology will be covered so that students can conduct and write case studies. For a final project, each student will be writing a case study. It is intended that those case studies may be expanded into a Master's Thesis or Project that is required of students for degree completion.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

THM 5334. The Business of Event Management. 1.5 Credit Hour.
The events and meeting industry has long been recognized as a major market sector in the tourism and hospitality industry, and is one of the fastest growing in the industry. This course will provide students insight into its complex and diverse nature as represented in the diversity of the industry, including goal and mission establishment, strategic planning, event program planning and design, program evaluation and many other industry specific topics.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Tourism and Hospitality Mgmt.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

THM 5335. Effective Sales Management. 1.5 Credit Hour.
Personal selling is a significant contributor to tourism and hospitality revenues. In providing students with an overview of the sales management process and its significance to the industry, this course will emphasize experiential based learning. Students will have an opportunity to develop and practice their personal selling skills by participating in field based sales initiatives with industry partners.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Tourism and Hospitality Mgmt.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.
THM 5336. Revenue Management and Hotel Analytics. 1.5 Credit Hour.
Perishable inventory with variable demand necessitates effective revenue management to realize the tourism and hospitality mechanism of revenue optimization. Participation in this course will afford students the opportunity to identify and exploit the core elements of revenue management, namely forecasting, controls (pricing and allocation/optimization decisions) and monitoring. This course aims for students to establish a reasonable level of relevant analytical/technical proficiency in each one of these core revenue management elements. Within the broader area of pricing theory, additional emphasis is placed on overbooking, consumer behavior, distribution channel management, and market segmentation. Utilizing STR hospitality metrics, students will develop hotel analytical skills and the opportunity to receive the STR certification in Hotel Industry Analytics.

Field of Study Restrictions: Must be enrolled in one of the following Majors: Tourism and Hospitality Mgmt.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

THM 5341. Destination Events - A Global Perspective. 3 Credit Hours.
This course provides an in-depth and comprehensive analysis for the worldwide festivals and event industry, the impact of current international issues, an understanding of how events and festivals are staged globally, as well as the legal and risk related concerns that come with events and festivals. Characteristics specific to the global aspect of the industry will be examined as well as the essentials of developing an effective inbound tourist experience.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THM 5342. Destination Management and Marketing. 3 Credit Hours.
This course is designed to provide a comprehensive understanding of the role, the scope and the business of destination marketing organizations (DMOs) as well as convention and visitor bureaus (CVBs). The trends, issues and challenges facing DMOs and CVBs will be discussed. In addition, an analysis of the planning process in developing tourism destinations in global, community, metropolitan, urban and rural settings will be investigated. Emphasis will be on stakeholder engagement, product development as well as enhancement of facilities to meet the needs of tourists.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THM 5343. Cultural Intelligence. 3 Credit Hours.
This course will focus on the concept of cultural intelligence (CQ), and provide students with both a theoretical background, as well as practical approaches to using this concept within the travel and tourism industry. Students will become knowledgeable in Hofstede's cultural dimensions, the four areas of CQ, as well as strategies for increasing CQ.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THM 5344. Crisis, Risk and Disaster Management. 3 Credit Hours.
This course will focus on crisis reduction, readiness, response and recovery efforts from both natural and human-induced disasters that affect tourism destinations and businesses. Furthermore, this course will address tourism's potential opportunities for improving systems and procedures.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

THM 5345. Understanding Tourism in the 21st Century. 3 Credit Hours.
This course will explore the conceptual foundations of tourism so that all students in the master's program will have exposure to a common core of tourism content. Specifically, this class will introduce students to topics such as leisure theory, travelers' motivations and decision making, the production of tourism and tourism places, globalization of tourism, social theories of tourist practice and experience, tourism policy, planning and governance, and critical perspectives on tourism.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
THM 5422. Entrepreneurship and Real Estate. 3 Credit Hours.
The class will focus on real estate issues in hospitality operations, and on the requirements and skills needed to become an entrepreneur in hospitality. As such, the real estate portion will cover general principles of real estate ownership and management, but with a concentration on the unique aspects of hospitality real estate development and financing. Project feasibility analysis and sound underwriting criteria will be a major focus of this section of the course. The entrepreneurship portion of the course will focus on requirements of owning and operating one's own business, including acquisition of capital, capital sources, and preparation of a complete business plan for a new venture.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

THM 5485. Graduate Internship. 3 Credit Hours.
The Graduate Internship utilizes a field placement with emphasis on acquisition and application of practical skills. One hundred and eighty contact hours will take place in an agency, under supervision of both the University internship coordinator and the agency-designated supervisor.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may be repeated for additional credit.

THM 5601. Service Industry Analytics. 3 Credit Hours.
This course will examine how organizations in the service industry can use analytics to make better decisions to solve practical industry problems. Analytics involves the use of data and data analysis to make fact-based decisions. This class will address the use of data as a tool for strategic success. It will focus on the collection, preparation, analysis, visualization, management, interpretation, and communication of data.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School, Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

THM 5602. Service Experience Design. 3 Credit Hours.
This course presents an overview of the process of planning and organizing human, environment, technology and culture components of a service experience in order to improve its quality and the interaction between service provider and customers. Students will learn how to measure and evaluate service experiences using both qualitative and quantitative methods. Furthermore, students will learn how to design service experiences according to consumers' needs as well as the service providers' competencies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School, Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

THM 5603. Food and Beverage Management. 1.5 Credit Hour.
This course focuses on contemporary challenges that managers and entrepreneurs in food and beverage businesses face. Key operational and financial success factors that underscore effective foodservice management are emphasized. Topics include restaurant metrics and cost control, menu design, service systems and special event planning. Food trends in restaurants, in addition to the structure of the beverage industry, will be explored including alcohol and food safety regulations. Given an increased consumer emphasis on health, both personally and environmentally as reflected in concern about food sources, nutrition and sustainability issues are also discussed.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Tourism and Hospitality Mgmt.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

THM 5604. Event Logistics and Risk Management. 1.5 Credit Hour.
This course examines event logistics, crisis and risk management strategies as they apply to the hospitality, festival and event industries. It is designed to look at both theoretical and practical elements of event operations and production to include a comprehensive review of logistics, contracts, technical production elements, staging and risk management.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Tourism and Hospitality Mgmt.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.
THM 5605. Entrepreneurial Thinking for Hospitality and Event Industries. 1.5 Credit Hour.
Students will be introduced to the fundamentals of entrepreneurship and how to initiate a new hospitality or event venture. Consideration of the stages of conceptualization, development and operation of a new entity will be emphasized, affording students the opportunity to appreciate the requirements to source funds, make location/distribution decisions and ultimately, successful and sustainable management of the operation. The focus of the course will be idea generation and business plan development.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Tourism and Hospitality Mgmt.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

THM 5606. Hospitality Cost Control. 1.5 Credit Hour.
Effective management of a hospitality enterprise requires strong cost control acumen to ensure the financial goals of the organization are realized. This course will examine all aspects of cost control within hospitality organizations including food and beverage costs, purchasing, labor cost management, menu pricing, cash flow, theft and loss prevention. Consideration will be given to the importance of effective budgeting and understanding hospitality financial ratios as well as other factors contributing to organizational profitability.

Department Restrictions: Must be enrolled in one of the following Departments: Tourism; Tourism/Hospitality Dpt.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

THM 5801. Hospitality Asset Lifecycle Optimization. 3 Credit Hours.
This course is designed to give senior hospitality executives an introduction into managing hospitality assets effectively. With its foundation in macroeconomics, this course will provide insight into the requirements for developing optimal asset life cycles, with consideration being given to ongoing performance systems as well as other long-term consequences, such as the environment and the community in which the asset operates (i.e., corporate social responsibility). Specifically, students will be introduced to commercial real estate and hotel investment as well as gain an appreciation of the asset cycle and the asset management process. Brand selection and managing the relationship with the management company are focuses for hospitality asset managers and, therefore, this course. Finally, students will examine current trends in the hospitality investment and finance markets.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

THM 5802. Successful Compliance Strategies for Hospitality Asset Management. 3 Credit Hours.
This course will provide a comprehensive overview of laws and regulations that focus on the transactional and operational aspects of maintaining hospitality and/or tourist related business. A student in this executive level course will gain knowledge on asset acquisition, asset management and development, and finally, asset divestiture. The course will span the laws that focus on creating and/or joining an existing business, proper legally sound management of that business and factors/methods of divesting the business. Attention will be given to real estate law, merger and acquisitions, divestiture, labor relations laws, equal employment opportunity laws, including Title VII of the Civil Rights Act and the Americans with Disabilities Act, and risk management.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

THM 5803. Business Analytics for Executive Decisions in Hospitality. 3 Credit Hours.
This course aims to provide senior hospitality professionals with the necessary tools to guide executive decisions from analysis of hospitality asset prices and returns. The course is designed to familiarize students with quantitative data management and analytic skills, such as handling of hospitality asset data, econometric modeling, forecasting, interpretation of results, and development of conclusions. Specific emphasis is given to econometric modeling of hospitality asset returns that have cross and/or spatial dependence, in conjunction with applicable urban economics and finance theories. After successful completion of the course, the students are expected to develop significant competencies in the following areas: collection and management of hospitality asset data files; evaluation of historical risk and returns from hospitality assets; construction and optimization of hospitality asset portfolios; spatial econometric modeling; quantitative revenue management/pricing; and, forecasting and statistical inference.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.
THM 5804. Winning Strategies for Hospitality Asset Portfolio Management. 3 Credit Hours.
This course seeks to develop the critical analytical skills of the senior hospitality executive so that they are able to make effective strategic decisions with respect to the hospitality asset portfolio. Participation in this course will enable students to develop their ability to articulate a strategic vision for managing the asset portfolio, including the effective development and execution of capital plans as well as the evaluation of such capital expenditures. Knowledge is acquired regarding asset portfolio development, specifically mergers and acquisitions, hold versus sell and refinancing decisions.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Sport Tourism Hospitality Mgt.

Repeatability: This course may not be repeated for additional credits.

Tyler School of Art (TYLE)

Courses

TYLE 8000. Interdisciplinary Seminar. 3 Credit Hours.
The Graduate Interdisciplinary Seminar is a required course for all first-year MFA students at Tyler. The course is designed to look at events and phenomena that have shaped culture across all disciplines in order to encourage discourse, recognize shared affinities with the understanding that a studio practice occurs within a large cultural context.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may be repeated for additional credit.

TYLE 8001. Graduate Professional Practices. 3 Credit Hours.
This course provides MFA students with insight into professional studio practices and the transition to post-MFA endeavors. It may include preparation and submission of materials for the MFA thesis exhibition, developing and refining an artist's statement, and other strategies that students can use to present their work and ideas to external audiences.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Fine Arts.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may not be repeated for additional credits.

TYLE 8149. Japanese Art, Theory, and Design Workshop. 3 Credit Hours.
The Tyler Summer Art Workshop is rigorous and professional ten-week program that integrates theory and application through an intensive series of guest lectures, research trips, critiques, and studio. In addition, students will have an opportunity to work on a collaborative art project with the guest faculty. This interdisciplinary workshop consists of students studying drawing, painting, printmaking and photography. The opportunity to engage in discussions and critiques with students from different art disciplines opens up a whole wide range of topics in art. As a production tool, the Tyler Summer Interdisciplinary Art Workshop offers students the opportunity to explore new technical methods while refining their area of expertise. Students are expected to complete a cohesive of work or one large-scale project by the end of the workshop. This work should not only demonstrate a command of one's craft but in some manner incorporate the overall cultural experience as well. As an enriching medium, the workshop offers students ample opportunity to participate in one of the world's most progressive and culturally stimulating city of Tokyo. Students of visual mediums will find Japan an amalgamation of stoic, ancient ways and cutting edge style.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Art, Tyler School.

Repeatability: This course may not be repeated for additional credits.

TYLE 8501. Theories of Visual Representation. 3 Credit Hours.

Repeatability: This course may not be repeated for additional credits.
TYLE 8985. Teaching in Higher Education. 3 Credit Hours.
This course enhances knowledge of how people learn and encourages participants to expand and diversify teaching methods. The course requires class discussion of readings and activities, provides individualized feedback on assignments, and opportunities for self-reflection along with reflection from the learning community of colleagues. The course will also address discipline-specific considerations of teaching studio art and design.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

**Urban Bioethics (UBTH)**

**Courses**

UBTH 5001. Urban Bioethics 1 (Professional Students). 3 Credit Hours.
In a seminar format, this course introduces students to the field of urban bioethics. Topics to be covered include: the history and theoretical foundations of bioethics; the role of values and ethics in health, health care, law, and policy; the role of values and ethics in understanding the social determinants of health and health disparities and inequities. The course features guest lectures from CBUHP faculty fellows. UBTH 5001 is the number of the course for MD, JD or other Professional students. UBTH 5101 is the number of the course for University Graduate Students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Law, Medicine.

Repeatability: This course may not be repeated for additional credits.

UBTH 5002. Urban Bioethics 2 (Professional Students). 3 Credit Hours.
In a seminar format, this course introduces students to the field of urban bioethics. Topics to be covered include: health policy, the ethics of research with vulnerable populations, clinical ethics, theories of cultural competency/humility, and critical epidemiology. The course features guest lectures from CBUHP faculty fellows. UBTH 5002 is the course number for Urban Bioethics 2 for MD, JD, and other Professional students. UBTH 5102 is the number of the course for other graduate students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Law, Medicine.

Repeatability: This course may not be repeated for additional credits.

UBTH 5022. Community Engagement I (Professional Students). 2 Credit Hours.
This is the first of a two-course series that incorporates a hands-on, community-based approach that takes a holistic look at a community, analyzing both its strengths and challenges. Students will work in multidisciplinary teams and with a faculty advisor and community representative in different neighborhoods within the city of Philadelphia. Students will work in and with the community to learn how to identify the values underlying the community's strengths and challenges, and then use those that value-orientation to: perform a medical urban map, perform a needs assessment, analyze the bioethics dimensions and the social determinants of health and illness in the community, write a pretend grant to study health issues in the community, conduct oral histories with community members, and conduct photojournalism assignments, among other things.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Law, Medicine.

Repeatability: This course may not be repeated for additional credits.

UBTH 5023. Community Engagement II (Professional Students). 2 Credit Hours.
This is the second of a two-course series that incorporates a hands-on, community-based approach that takes a holistic look at a community, analyzing both its strengths and challenges. Students will work in multidisciplinary teams and with a faculty advisor and community representative in different neighborhoods within the city of Philadelphia. Students will work in and with the community to learn how to identify the values underlying the community's strengths and challenges, and then use those that value-orientation to: perform a medical urban map, perform a needs assessment, analyze the bioethics dimensions and the social determinants of health and illness in the community, write a pretend grant to study health issues in the community, conduct oral histories with community members, and conduct photojournalism assignments, among other things.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Law, Medicine.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
UBTH 5022|Minimum Grade of B-|May not be taken concurrently.
UBTH 5031. The Values, Ethics, & Economics of Health Care Delivery in Urban Communities (Professional Students). 2 Credit Hours.
This course focuses on the values, organization, funding, and logistics of community based health care delivery. Students will be introduced to the various agencies involved in urban health care delivery - FQHC, HRSA, NIH, and others. In addition, an introduction to grant writing in the area of urban bioethics and health delivery in urban communities will be provided.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Law, Medicine.

Repeatability: This course may not be repeated for additional credits.

UBTH 5041. Critical Social Science and Urban Bioethics (Professional Students). 2 Credit Hours.
This course introduces students to the theories and methods of critical social science, such as critical medical anthropology (CMA). Students will gain an appreciation for the role and importance of political, religious, economic, and social lenses, and of understanding disease and illness as biocultural phenomena.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Law, Medicine.

Repeatability: This course may not be repeated for additional credits.

UBTH 5082. Independent Study 1 (Professional Students). 3 Credit Hours.
Working in conjunction with an advisor, who upon approval can be from the Medical School, the CBUHP, or a dual-degree student's home department, the student will craft and complete an independent study course on a topic/area of interest relevant to professional development. This is the first of two independent studies allowed for MA in Urban Bioethics credit. Please see the MA in Urban Bioethics Handbook for the most recent description of allowable approaches to the independent study.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Law, Medicine.

Repeatability: This course may not be repeated for additional credits.

UBTH 5101. Urban Bioethics 1 (Graduate Students). 3 Credit Hours.
In a seminar format, this course introduces students to the field of urban bioethics. Topics to be covered include: the history and theoretical foundations of bioethics; the role of values and ethics in health, health care, law, and policy; the role of values and ethics in understanding the social determinants of health and health disparities and inequities. The course features guest lectures from CBUHP faculty fellows. UBTH 5101 is the number of the course for University Graduate Students. UBTH 5001 is the number of the course for MD, JD or other Professional students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate, Law Graduate.

Repeatability: This course may not be repeated for additional credits.

UBTH 5102. Urban Bioethics 2 (Graduate Students). 3 Credit Hours.
In a seminar format, this course introduces students to the field of urban bioethics. Topics to be covered include: health policy, the ethics of research with vulnerable populations, clinical ethics, theories of cultural competency/humility, and critical epidemiology. The course features guest lectures from CBUHP faculty fellows. UBTH 5102 is the course number for Urban Bioethics 2 for Temple Graduate students. UBTH 5002 is the number of the course for MD, JD, and other Professional students.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate, Law Graduate.

Repeatability: This course may not be repeated for additional credits.

UBTH 5122. Community Engagement I (Graduate Students). 2 Credit Hours.
This is the first of a two-course series that incorporates a hands-on, community-based approach that takes a holistic look at a community, analyzing both its strengths and challenges. Students will work in multidisciplinary teams and with a faculty advisor and community representative in different neighborhoods within the city of Philadelphia. Students will work in and with the community to learn how to identify the values underlying the community's strengths and challenges, and then use those that value-orientation to: perform a medical urban map, perform a needs assessment, analyze the bioethics dimensions and the social determinants of health and illness in the community, write a pretend grant to study health issues in the community, conduct oral histories with community members, and conduct photojournalism assignments, among other things.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate, Law Graduate.

Repeatability: This course may not be repeated for additional credits.
UBTH 5123. Community Engagement II (Graduate Students). 2 Credit Hours.
This is the second of a two-course series that incorporates a hands-on, community-based approach that takes a holistic look at a community, analyzing both its strengths and challenges. Students will work in multidisciplinary teams and with a faculty advisor and community representative in different neighborhoods within the city of Philadelphia. Students will work in and with the community to learn how to identify the values underlying the community's strengths and challenges, and then use those that value-orientation to: perform a medical urban map, perform a needs assessment, analyze the bioethics dimensions and the social determinants of health and illness in the community, write a pretend grant to study health issues in the community, conduct oral histories with community members, and conduct photojournalism assignments, among other things.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate, Law Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
UBTH 5122|Minimum Grade of B-|May not be taken concurrently.

UBTH 5131. The Values, Ethics, & Economics of Health Care Delivery in Urban Communities (Graduate Students). 2 Credit Hours.
This course focuses on the values, organization, funding, and logistics of community based health care delivery. Students will be introduced to the various agencies involved in urban health care delivery - FQHC, HRSA, NIH, and others. In addition, an introduction to grant writing in the area of urban bioethics and health delivery in urban communities will be provided.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate, Law Graduate.

Repeatability: This course may not be repeated for additional credits.

UBTH 5141. Critical Social Science and Urban Bioethics (Graduate Students). 2 Credit Hours.
This course introduces students to the theories and methods of critical social science, such as critical medical anthropology (CMA). Students will gain an appreciation for the role and importance of political, religious, economic, and social lenses, and of understanding disease and illness as biocultural phenomena.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate, Law Graduate.

Repeatability: This course may not be repeated for additional credits.

UBTH 5182. Independent Study 1 (Graduate Students). 3 Credit Hours.
Working in conjunction with an advisor, who upon approval can be from the Medical School, the CBUHP, or a dual-degree student's home department, the student will craft and complete an independent study course on a topic/area of interest that is relevant to professional development. This is the first of two independent studies allowed for MA in Urban Bioethics credit. Please see the MA in Urban Bioethics Handbook for the most recent description of allowable approaches to the independent study.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate, Law Graduate.

Repeatability: This course may not be repeated for additional credits.

UBTH 5189. Urban Bioethics Field Study 1. 1 to 6 Credit Hour.
The student will identify a specific urban problem evident in North Philadelphia and collaborate with academic, medical, and community mentors to develop and begin implementation of an innovative intervention with the goal of improving health in a fiscally sustainable way.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate, Law Graduate.

Repeatability: This course may be repeated for additional credit.

UBTH 5210. Special Topics: Social Science Approaches to Urban Bioethics. 1 to 3 Credit Hour.
This course features a rotating set of topics related to the intersections of the social sciences and urban bioethics. Offerings are not part of the regular course listings. Examples include 'cultural competency and humility'; 'health, illness, and the urban body', and 'public images of urban health and illness'. Please contact the listed Center for Bioethics, Urban Health, and Policy faculty member for more details on the current offering.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate, Law Graduate.

Repeatability: This course may be repeated for additional credit.
UBTH 5220. Special Topics: Urban Bioethics at the Bedside. 1 to 3 Credit Hour.
This course features a rotating set of topics related to the clinical urban bioethics. Offerings are not part of the regular course listings. Examples include 'general clinical ethics in the urban environment', 'navigating clinical disagreements', and 'pediatric urban bioethics'. Please contact the listed Center for Bioethics, Urban Health, and Policy faculty member for more details on the current offering.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate, Law Graduate.

Repeatability: This course may be repeated for additional credit.

UBTH 5230. Special Topics: Current Topics in Urban Bioethics. 1 to 3 Credit Hour.
This course features a rotating set of topics related to current events in urban bioethics. Offerings are not part of the regular course listings. Examples include bioethics and political discourse; navigating the Ebola fear response; and public policies affecting violence and health. Please contact the listed Center for Bioethics, Urban Health, and Policy faculty member for more details on the current offering.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate, Law Graduate.

Repeatability: This course may be repeated for additional credit.

UBTH 5240. Special Topics: Research and Urban Bioethics. 1 to 3 Credit Hour.
This course features a rotating set of topics related to urban bioethics and research. Offerings are not part of the regular course listings. Examples include the social determinants of health in urban research and establishing and maintaining trust of community partners. Please contact the listed Center for Bioethics, Urban Health, and Policy faculty member for more details on the current offering.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate, Law Graduate.

Repeatability: This course may be repeated for additional credit.

UBTH 9082. Independent Study 2 (Professional Students). 3 Credit Hours.
Working in conjunction with an advisor, who upon approval can be from the Medical School, the CBUHP, or a dual-degree student's home department, the student will craft and complete an independent study course on a topic/area of interest relevant to professional development. This is the second of two independent studies allowed for MA in Urban Bioethics credit. Please see the MA in Urban Bioethics Handbook for the most recent description of allowable approaches to the independent study.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Law, Medicine.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
UBTH 5082|Minimum Grade of B-|May not be taken concurrently.

UBTH 9182. Independent Study 2 (Graduate Students). 3 Credit Hours.
Working in conjunction with an advisor, who upon approval can be from the Medical School, the CBUHP, or a dual-degree student's home department, the student will craft and complete an independent study course on a topic/area of interest that is relevant to professional development. This is the second of two independent studies allowed for MA in Urban Bioethics credit. Please see the MA in Urban Bioethics Handbook for the most recent description of allowable approaches to the independent study.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate, Law Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
UBTH 5182|Minimum Grade of B-|May not be taken concurrently.

UBTH 9189. Urban Bioethics Field Study 2. 1 to 6 Credit Hour.
This course continues its companion course, UBTH 5189: Urban Bioethics Field Study 1. The student, having identified a specific urban problem evident in North Philadelphia, and having developed and initiated the intervention, will continue to work with academic, medical, and community mentors to evaluate the intervention. This course also charges the student with laying the groundwork for future sustainability.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate, Law Graduate.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:
UBTH 5189|Minimum Grade of B-|May not be taken concurrently.
UBTH 9995. MA in Urban Bioethics Thesis (Professional Students). 3 Credit Hours.
Working in conjunction with a thesis advisor, who upon approval can be from the Medical School, the CBUH&P, or a dual-degree student's home department, the student will conduct an original research project (empirical or non-empirical) and produce a publishable quality paper. The thesis should be a novel contribution to the field.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Law, Medicine.

Repeatability: This course may be repeated for additional credit.

UBTH 9996. MA in Urban Bioethics Thesis (Graduate Students). 1 to 6 Credit Hour.
Working in conjunction with a thesis advisor, who upon approval can be from the Lewis Katz School of Medicine, the CBUH&P, or a dual-degree student's home department, the student will conduct an original research project (empirical or non-empirical) and produce a publishable quality paper. The thesis should be a novel contribution to the field.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate, Law Graduate.

Repeatability: This course may be repeated for additional credit.

Urban Education (URBE)

Courses

URBE 5401. Policy and Practice in Urban Education. 3 Credit Hours.
This course introduces students to key issues in urban education. It helps students situate urban schools in their broader social, political, and economic contexts, providing a deeper understanding of the ways larger social processes shape cities and their schools. In addition, it provides students with multiple lenses to understand dynamics within urban schools and classrooms.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

URBE 5417. The Urban Environment. 3 Credit Hours.
"The Urban Environment" will provide students with an introduction to the historical, social, and political factors shaping cities. The course is primarily, but not exclusively, intended for education students and is designed to help students to develop a more sophisticated understanding of the contexts in which urban education occurs. More specifically, the course will focus on the history of cities, including 20th and 21st century urban transformation, the development and persistence of residential segregation, urban politics and poverty, and trends in theory and practice around urban redevelopment. Students will, of course, be encouraged to make connections between course material and other issues in urban education or their own areas of specialization.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

URBE 5501. Urban Schools. 3 Credit Hours.
This course is designed to help students understand the social, political, and economic factors that shape urban schools. The focus is on both perennial and emerging issues affecting the urban environment and schools and on major policies relating to those issues (e.g., equity, accountability, and school finance). The class requires several critiques of educational literature, as well as an extensive review of the literature on a substantive topic related to urban education. Offered every Fall term.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

URBE 5515. Service Learning and Community Development. 3 Credit Hours.
This course presents models for service learning with particular emphasis on those that contribute to urban community development and community building. Students conduct a participatory community study and design a service learning project that meets authentic community needs. Offered every Fall term.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
URBE 5516. School-Community Partnerships in Urban Settings. 3 Credit Hours.
This course introduces models, practices, and theories for developing partnerships between schools, universities, community-based groups/agencies, and neighborhoods. Among the models studied are various types of partnerships, community organizations, family centers, and community schools. The course emphasizes the manifold issues that emerge when partnerships involve participants who cross the boundaries of class, race, gender, professions, culture, and language. Field visits and fieldwork are included. Offered Spring term.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

URBE 5565. The Origins of Urban Education. 3 Credit Hours.
This reading and discussion class is based on the most important secondary literature in urban history and the history of urban education. Philadelphia is used as a case study. Topics in urban history include the geography and functional differentiation of urban space; the political economy of cities; urban demographics with a special emphasis on racial and ethnic minorities; urban political and social institutions; and the site as educator, including regional and site planning and urban material culture. Topics in urban educational history include race and ethnicity in the history of urban education; the politics of urban education; the history of social class; and the opportunity structure in urban education.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

URBE 5611. Reforming City Schools. 3 Credit Hours.
This course will examine educational policy reform ideas and strategies. The course content will focus on understanding the impact of educational policymaking on big city school districts and their local school contexts. Special attention will be paid to the urban social and political environments in which policies are made and applied, along with the challenges of racial and social class inequalities. Students will consider different types of current and past reforms, utilizing published research literature, popular media, and Internet-based resources to increase the likelihood that current debates in the field are covered. The intended and unintended consequences of educational and social policy will be examined as well.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

URBE 5620. Special Topics in Urban Education. 2 to 6 Credit Hours.
Topics vary.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

URBE 5630. Special Seminar in Urban Education. 3 Credit Hours.
Topics vary.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

URBE 8602. Theory Seminar in Urban Schools. 3 Credit Hours.
This course introduces some important theoretical frameworks and theorists that inform research in urban education. Emphasis in on the contributions of the social sciences. Theories are discussed in the context of urban education and are applied to major issues of interest to the class. Each student selects an issue, which s/he may have begun to explore in URBAN ED 5501, around which written and oral presentations are based. Teams of students also lead class discussions on the work of selected theorists.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
URBE 8603. Urban Education Doctoral Capstone. 3 Credit Hours.
This is the first semester of a two semester (Fall/Spring) course that is required for all urban Education doctoral students. It is designed to support students as they carry out their own independent research projects and to serve as a capstone to their doctoral education. Ideally, all students will work on developing projects related to their future dissertation research.

Department Restrictions: Must be enrolled in one of the following Departments: Education:Policy/Org/Lead Stud.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Urban Education.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
College Restrictions: Must be enrolled in one of the following Colleges: Education.

Repeatability: This course may be repeated for additional credit.

URBE 9982. Independent Research in Urban Education. 3 Credit Hours.
Because the Urban Education Program is interdisciplinary and draws on faculty from across the University, it is critical that students become acquainted with faculty whose research styles and interests will contribute to their course of study by, for example, serving on their dissertation committees. This course requires students to design and complete a project with a faculty member outside the program. In consultation with their advisors, students identify an affiliated member with whom to work and then create and complete an independent study. This research can take several forms, e.g., collecting and analyzing data, conducting an extensive literature review, or utilizing secondary data.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

URBE 9991. Research Practicum. 3 Credit Hours.
This doctoral-level course provides each student with the experience of completing an independent study research project. Students are required to formulate a research question; conduct a thorough review of the relevant literature on the topic; design a small study to be carried out throughout the year; and write up the results. While this project may be directly related to the student’s dissertation research, it does not serve as a replacement of that research endeavor. Each student is expected to present her/his work in a public setting.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

URBE 9996. Masters Thesis. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.

URBE 9999. Doctoral Dissertation. 1 to 6 Credit Hour.
Open only to doctoral candidates who have successfully completed the minimum hours of coursework required for the degree, passed the preliminary examination, and have an approved proposal on file with the Graduate School. Continuous registration during the Fall and Spring semesters is required until the dissertation is completed and accepted by the Graduate School.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

Repeatability: This course may be repeated for additional credit.
Faculty

Beasley School of Law
Laura E. Little, Professor, Department of Dean's Office; J.D., Temple University School of Law.

Gregory N. Mandel, Professor, Department of Dean's Office; J.D., Stanford Law School.

Boyer College of Music and Dance
Charles Abramovic, Professor, Department of Keyboard Studies; D.M.A., Temple University.

Mitos Andaya, Associate Professor, Department of Vocal Arts; D.M.A., University of Kansas.

Christine L. Anderson, Associate Professor, Department of Vocal Arts; D.M.A., University of Cincinnati College-Conservatory of Music.

Christine Bass, Assistant Professor, Department of Music Education and Music Therapy; M.M., Westminster Choir College Rider University.

Luis O. Biava, Professor Emeritus, Department of Instrumental Studies; M.M., Manhattan School of Music.

Beth Bolton, Associate Professor, Department of Music Education and Music Therapy; Ph.D., Temple University.

Karen E. Bond, Associate Professor, Department of Dance; Ph.D., La Trobe University.

Darlene M. Brooks, Associate Professor, Department of Music Education and Music Therapy; Ph.D., Temple University.

Matthew Brunner, Assistant Professor (Teaching/Instructional), Department of Instrumental Studies; D.M.A., Indiana University.

Sara Buechner, Associate Professor, Department of Keyboard Studies; D.M.A., Manhattan School of Music.

Nathan Buonviri, Associate Professor, Department of Music Education and Music Therapy; Ph.D., Temple University.

David B. Cannata, Associate Professor, Department of Music Studies; Ph.D., New York University.

Deborah A. Confredo, Professor, Department of Music Education and Music Therapy; Ph.D., Florida State University.

Andreas Delfs, Professor, Department of Instrumental Studies; M.M., The Juilliard School.

Marcus DeLoach, Assistant Professor, Department of Vocal Arts; D.M.A., Rice University.

Alexander deVaron, Associate Professor (Teaching/Instructional), Department of Music Studies; D.M.A., Temple University.

Cheryl L. Dileo, Professor, Department of Music Education and Music Therapy; Ph.D., Louisiana State University.

Rollo A. Dilworth, Professor, Department of Music Education and Music Therapy; D.M.A., Northwestern University.

Sherril Dodds, Professor, Department of Dance; Ph.D., University of Surrey.

Alexander E. Fiorillo, Professor Emeritus, Department of Keyboard Studies; M.M., Catholic University of America.

Edward Flanagan, Associate Professor, Department of Music Studies; Ph.D., Temple University.

Cynthia J. Folio, Professor, Department of Music Studies; Ph.D., Eastman School of Music.

Mark Franko, Professor, Department of Dance; Ph.D., Columbia University.

Shana Goldin-Perschbacher, Assistant Professor, Department of Music Studies; Ph.D., University of Virginia.

Lore A. Gratis, Assistant Professor (Teaching/Instructional), Department of Vocal Arts; D.M.A., Temple University.

Matthew J. Greenbaum, Professor, Department of Music Studies; Ph.D., City University of New York.

Jillian Harris, Associate Professor, Department of Dance; M.F.A., New York University Tisch School of the Arts.

Lawrence R. Indik, Associate Professor (Practice), Department of Vocal Arts; D.M.A., Manhattan School of Music.

John F. Johnson, Professor Emeritus, Department of Music Studies; M.M., University of Texas.

Laura E. Katz Rizzo, Assistant Professor, Department of Dance; Ph.D., Temple University.

Gregory S. Kettinger, Instructor (Teaching/Instructional), Department of Music Studies; B.M., Temple University.

Joann M. Kirchner, Assistant Professor (Teaching/Instructional), Department of Keyboard Studies; Ph.D., University of Oklahoma.

Michael Klein, Professor, Department of Music Studies; Ph.D., State University of New York at Buffalo.

Steven Kreinberg, Associate Professor, Department of Music Studies; Ed.D., Temple University.

Jan L. Krzywicki, Professor, Department of Music Studies; M.M., Philadelphia Musical Academy.

Edward D. Latham, Associate Professor, Department of Music Studies; Ph.D., Yale University.

Kathryn Leemhuis, Assistant Professor, Department of Vocal Arts; D.M.A., University of Cincinnati College-Conservatory of Music.

Kun-Yang Lin, Professor, Department of Dance; M.F.A., New York University Tisch School of the Arts.

Joyce Z. Lindorff, Professor, Department of Keyboard Studies; D.M.A., The Juilliard School.

Wendy Magee, Professor, Department of Music Education and Music Therapy; Ph.D., University of Sheffield.
Noriko Manabe, Associate Professor, Department of Music Studies; Ph.D., Graduate Center, City University of New York.

Alisha C. Nypaver, Instructor (Teaching/Instructional), Department of Music Studies; M.M., Temple University.

Phillip R. O'Banion, Assistant Professor, Department of Instrumental Studies; M.M., University of Colorado.

Richard D. Oatts, Professor, Department of Music Studies.

Lambert T. Orkis, Professor, Department of Keyboard Studies; M.M., Temple University.

Elizabeth C. Parker, Associate Professor, Department of Music Education and Music Therapy; Ph.D., University of Nebraska-Lincoln.

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Valery Ryvkin, Associate Professor, Department of Vocal Arts; M.M., The Juilliard School.

Eduard Schmieder, Professor, Department of Instrumental Studies.

Helen Shoemark, Associate Professor, Department of Music Education and Music Therapy; Ph.D., University of Melbourne.

Jeffrey C. Solow, Professor, Department of Instrumental Studies; B.A., University of California Los Angeles.

Merian Soto, Professor, Department of Dance; M.A., Columbia University.

Terrell L. Stafford, Professor, Department of Music Studies; M.M., Rutgers University.

Robert T. Stroker, Professor, Department of Music Education and Music Therapy; Ph.D., Michigan State University.

Maria del Pico Taylor, Professor, Department of Keyboard Studies; M.M., Northwestern University.

Margaret A. Tileston, Instructor (Teaching/Instructional), Department of Music Education and Music Therapy; M.A., Lesley University.

Adam Vidiksis, Assistant Professor, Department of Music Studies; D.M.A., Temple University.

Lindsay Weightman, Associate Professor (Teaching/Instructional), Department of Music Studies; D.M.A., Manhattan School of Music.

Kariamu Welsh, Professor, Department of Dance; D.A., New York University.

Stephen A. Willier, Associate Professor, Department of Music Studies; Ph.D., University of Illinois.

Maurice W. Wright, Professor, Department of Music Studies; D.M.A., Columbia University.

Steven D. Zohn, Professor, Department of Music Studies; Ph.D., Cornell University.

College of Education

Gregory Anderson, Professor, Department of Policy, Organizational, and Leadership Studies; Ph.D., City University of New York.

Janelle M. Bailey, Assistant Professor, Department of Teaching and Learning; Ph.D., University of Arizona.

Cynthia S. Belliveau, Associate Professor (Teaching/Instructional), Department of Psychological Studies in Education; Ph.D., Temple University.

Julie L. Booth, Associate Professor, Department of Teaching and Learning; Ph.D., Carnegie Mellon University.

Jean A. Boyer, Assistant Professor (Teaching/Instructional), Department of Teaching and Learning; Ph.D., University of Cincinnati.

Joseph Boyle, Associate Professor, Department of Teaching and Learning; Ph.D., University of Kansas.

Carol B. Brandt, Associate Professor, Department of Teaching and Learning; Ph.D., University of New Mexico.

Wanda M. Brooks, Associate Professor, Department of Teaching and Learning; Ed.D., University of Pennsylvania.

James P. Byrnes, Professor, Department of Psychological Studies in Education; Ph.D., Temple University.

Sarah A. Cordes, Assistant Professor, Department of Policy, Organizational, and Leadership Studies; Ph.D., New York University.

Maia Bloomfield Cucchiara, Associate Professor, Department of Policy, Organizational, and Leadership Studies; Ph.D., University of Pennsylvania.

James Earl Davis, Professor, Department of Policy, Organizational, and Leadership Studies; Ph.D., Cornell University.

Meixia Ding, Associate Professor, Department of Teaching and Learning; Ph.D., Texas A and M University.

Arthur G. Dowdy, Assistant Professor (Teaching/Instructional), Department of Teaching and Learning; Ph.D., Temple University.

Joseph P. DuCette, Professor, Department of Psychological Studies in Education; Ph.D., Cornell University.

Richard M. Englert, Professor, Department of Policy, Organizational, and Leadership Studies; Ed.D., University of California Los Angeles.

Armando X. Estrada, Assistant Professor, Department of Policy, Organizational, and Leadership Studies; Ph.D., University of Texas at El Paso.

Frank H. Farley, Professor, Department of Psychological Studies in Education; Ph.D., University of London.

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Catherine A. Fiorello, Professor, Department of Psychological Studies in Education; Ph.D., University of Kentucky.
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College of Engineering

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Fauzia Ahmad, Associate Professor, Department of Electrical and Computer Engineering; Ph.D., University of Pennsylvania.

Berk Ayaranci, Instructor (Teaching/Instructional), Department of Civil and Environmental Engineering; M.S.M.E., Temple University.

Li Bai, Professor, Department of Electrical and Computer Engineering; Ph.D., Drexel University.

George Baran, Professor Emeritus, Department of Mechanical Engineering; Ph.D., University of Michigan.

Evangelia Bellas, Assistant Professor, Department of Bioengineering; Ph.D., Tufts University.

Saroj K. Biswas, Professor, Department of Electrical and Computer Engineering; Ph.D., University of Ottawa.

Noemi Bonessio, Associate Professor, Department of Civil and Environmental Engineering; Ph.D., Sapienza University of Rome.

Robert M. Brooks, Associate Professor, Department of Civil and Environmental Engineering; Ph.D., Indian Institute of Technology.

David S. Brookstein, Senior Associate Dean and Professor, Department of Mechanical Engineering; Sc.D., Massachusetts Institute of Technology.

Shih-Jiun Chen, Professor, Department of Mechanical Engineering; Ph.D., Drexel University.

Harsh Deep Chopra, Professor, Department of Mechanical Engineering; Ph.D., University of Maryland College Park.

Joseph Thomas Coe Jr., Assistant Professor, Department of Civil and Environmental Engineering; Ph.D., University of California Los Angeles.

Richard S. Cohen, Professor, Department of Mechanical Engineering; Ph.D., Princeton University.

Philip Dames, Assistant Professor, Department of Mechanical Engineering; Ph.D., University of Pennsylvania.

Joseph Danowsky, Instructor (Teaching/Instructional), Department of Electrical and Computer Engineering; B.A., University of Pittsburgh.

Kourosh Darvish, Associate Professor, Department of Mechanical Engineering; Ph.D., University of Virginia.

Zdenka J. Delalic, Associate Professor, Department of Electrical and Computer Engineering; Ph.D., University of Pennsylvania.

Dmitry A. Dikin, Associate Professor (Research), Department of Mechanical Engineering; Ph.D., National Academy of Sciences of Ukraine, Institute for Low Temperature Physics and Engineering.

Oleksandr Diloyan, Assistant Professor (Teaching/Instructional), Department of Mechanical Engineering; Ph.D., Donetsk National Technical University.

Liang Du, Assistant Professor, Department of Electrical and Computer Engineering; Ph.D., Georgia Institute of Technology.

Thomas V. Edwards, Associate Professor (Teaching/Instructional), Department of Center for Engineering, Management and Technology; D.P.S., Pace University.

Ahmed Faheem, Assistant Professor, Department of Civil and Environmental Engineering; Ph.D., University of Wisconsin.

Anthony Ferrar, Assistant Professor (Teaching/Instructional), Department of Mechanical Engineering; Ph.D., Virginia Tech.

James A. Furmato, Assistant Professor (Teaching/Instructional), Department of Bioengineering; Ph.D., Drexel University.

Jonathan Arye Gerstenhaber, Assistant Professor (Teaching/Instructional), Department of Bioengineering; Ph.D., Temple University.

Bojana Gligorijevic, Assistant Professor, Department of Bioengineering; Ph.D., Georgetown University.

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Peter Leikes, Professor, Department of Bioengineering; Ph.D., RWTH Aachen University.

Michel Lemay, Professor, Department of Bioengineering; Ph.D., Case Western Reserve University.

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Xiaonan Lu, Associate Professor, Department of Electrical and Computer Engineering; Ph.D., University of Maryland College Park.

Erica R. McKenzie, Assistant Professor, Department of Civil and Environmental Engineering; Ph.D., University of California Davis.

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